TALMUDIC AND RABBINICAL CHRONOLOGY

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TALMUDIC AND RABBINICAL CHRONOLOGY

The Systems of Counting Years in Jewish Literature

by

EDGAR FRANK

Foreword by

DR. SIDNEY B. HOENIG

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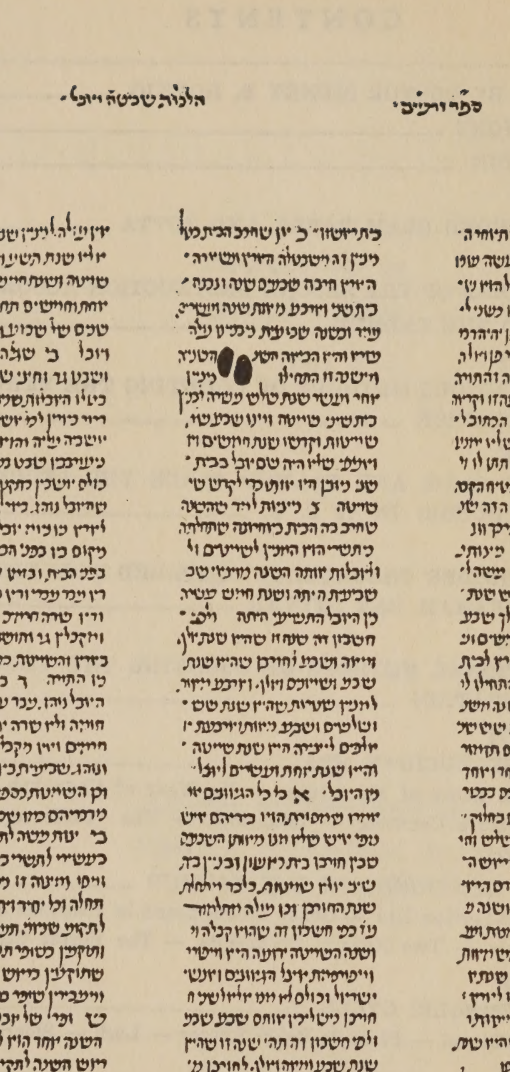

A PAGE FROM A MISHNEH TORAH MANUSCRIPT

Hilchoth Shmittah v'Yobel, Ch. IX, 29 to Ch. X, 12. (See pp. 64 to 68)

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FOREWORD

The chronological systems used by Jews have undergone many changes in the course of centuries. In the Biblical period the reckoning was from the time of the Exodus; then from the construction of Solomon's Temple, or according to the reigns of the various kings. In post-Biblical times the Jews counted by the Seleucidan Era, beginning in the autumn of 312 BCE. They continued this system in Oriental countries until the 16th century. Later chronology was according to the destruction of the 2nd Temple; thereafter, the reckoning from time of Creation was adopted.

These various systems of chronology are recorded in different Biblical and rabbinic works, and often there are discrepancies and contradictions. Many attempts have been made to interpret the differences. It is the purpose of the author to evaluate, analyze and to give a full comprehensive review of the differences, weighing all problems and criticism. He discusses the singular methods of counting in the various Eras and conciliates discrepancies in the Talmudic and Maimonidean works. Thus, for instance, he establishes that Maimonides also held that the Destruction was in 70 CE, according to rabbinic chronology. Mr. Frank's use of Karaitic inscriptions to bolster his argument is stimulating and especially of interest is the strengthening of his thesis by producing copies of *Gittin* of Fostat; such as one written on Friday, 20 Kislev 1457 SE — December 7, 1145.

On the basis of such keen study, the author corrects misinterpretations of ages in the matter of chronology. His conclusions that the Exodus occurred on a Friday, the Revelation on a Sabbath, that the rededication of the Temple (Chanukah) took place in 166 BCE or, that Maimonides corrected his own errors of chronology, are matters of real value to the student. His study of the *Tekufot* (the seasons) as based on the Julian calendar, or his analysis of the changes introduced in a particular count of the *Anno Mundi* display scholarly acumen.

It is hoped that this book will serve as a guide to students who wish to establish the correctness of a particular date or event in Jewish history. By following Edgar Frank's analysis, one can well learn the sweep of Jewish history and the method of ascertaining chronological data in rabbinic literature.

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ABBREVIATIONS

AbH — Abraham bar Hiyyah

AM — *Anni Mundi,* Years of Creation ליצירה or לבריאת עולם

AM I — The era year 1 of which started 1 year before Adam's creation (used at present), בהר"ד

AM II — The era year 1 of which started on the day of Adam's creation ויי"ד

AM III — The era year 1 of which started 1 year after Adam's creation, גי כי"ב תתע"ו

BCE — Before the Common Era

CE — Common Era

DE — The Era after the Destruction of the Second Temple לחרבן

Handbuch — Eduard Mahler, Handbuch der juedischen Chronologie, Leipzig, 1916

JQR — Jewish Quarterly Revue, N. S., Philadelphia

Monatsschrift — Monatsschrift fuer Geschichte und Wissenschaft des Judentums, Breslau

p. ... l. ... (p. ... line ..) — refers to page and numbered line of table

PdR — Pirke de Rabbi Eliezer

Proceedings — Proceedings of the American Academy for Jewish Research

Revue — Revue des Etudes Juives

RhS — Rosh ha-Shanah

SE — Seleucidan Era, Era Contractum, מנין שטרות or למלכות אלכסנדרום

SE I — Year 1 of this era started in autumn 313 BCE

SE II — Year 1 of this era started in autumn 312 BCE (The SE era used by the Jews)

SE III — Year 1 of this era started in autumn 311 BCE

SO — Seder Olam Zutta.

The year of the Christian era which coincides with the three to four months from RhS to December 31 is usually printed in brackets.

MEINER TREUEN LEBENSGEFÄHRTIN

RUTH FRANK geb. SAUL

INTRODUCTION

From before the dawn of civilization man was already intrigued by the change of daylight, to the darkness of the night, from the crescent to the disappearance of the moon, from rich pastures to winter with fields covered by snow and ice. From nature he learned the division of time into days, months and years. But quite some development must have taken place before he was able to use these time units for the measurement of events he experienced. For this purpose he had to find a point from which to begin his counting.

Much later, after recognizing that out of the history of the individual grows the history of the family, the tribe, and the nation, man began to measure longer periods than the span of life of the single person.

When did these periods start; when was the epoch of the various eras; where and how long were they employed; when were they replaced by others?

Chronology is the science which, among others, answers these questions.

This present study will attempt to explain the structure of the chronology of the *Jewish* people from the time of the Talmud on. In other words, it will discuss the various systems of counting years used since about 200 C.E.

The following subjects, however, being beyond the limit of our investigation, will not be discussed:

The proof of the accuracy of chronological data in the Bible,

The relation of the *Seder Olam,* the basis of Jewish chronology and the data given in the Bible,

Contradiction between the data in Jewish chronology and established ancient history.[1]

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1) It is a well known fact, for instance, that the First Temple was destroyed in 586 and the Second consecrated in 516 BCE and destroyed in 70 CE. The Second Temple, therefore, stood 585 years (not 586, see note 23), while according to Jewish chronology, it stood

Jewish and non-Jewish chronological systems used in antiquity (including those of the Bible), and also the structure of the various calendars will, as a rule, be considered only in so far as they form a basis for or are to be compared with Talmudic and rabbinical chronology.

One of the most significant proofs to be demonstrated is that the Talmud and the *Seder Olam Zutta* fixed the time of the burning of the Second Temple correctly in the year 70 C.E.; until now the general belief was that both these sources placed the destruction in 68 C.E., and thus erred by two years.

Because the methods of counting years used in Jewish literature, particularly the widely employed dating from creation has been so often misunderstood, a number of tables are inserted by which it is hoped to clarify the present confusion.

I extend my thanks to the scholars who have read the manuscript, to Rabbi Theodore L. Adams and Rabbi Dr. Leo Jung for their competent advice and to Dr. M. Lutzki, Rabbi Zev Zahavy and Rabbi Chayim Zimmerman for their valuable suggestions.

יום ח' של חנוכה שנת למנוחת ימינו כן הודע:
New York, December 9, 1953 *EDGAR FRANK*

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only 420 years. See *Yoma* 9a and Yerushalmi, *Megillah* I, 12. According to the *SO* and *Ab.Zar.* 9a, during the Second Commonwealth the Persians reigned 34 years, the Greeks 180, the Hasmoneans 103 and the Romans 103 years, which gives us a total of 420 or, compared with 585 years, a difference of 165 years. This mistake seems to lie in the time of the reign of the Persians which was much longer than 34 years. For explanations of this discrepancy see Dr. M. S. Zuckermandl in *Monatschrift* XX, Breslau 1871, page 460 (not listed in index); Lauterbach in *Proceedings* vol. 5, 1934; Biberfeld, *Universal Jewish History*, vol. 1., page 29ff.; A. Marcus, *Jahrbuch der Juedisch-Literarischen Gesellschaft, Frankfurt* a.M., 1906 p. 331. See also Dr. Bondi in *Jahrbuch der Jued. Lit. Gesellschaft*, XVII, p. 325, Elfenbein, *Teshuboth Rashi, resp.* 19., and Ruehl, *Der Ursprung der juedischen Weltaera* in Deutsche Zeitschrift fuer Geschichtswissenschaft, N.F. vol. II, 1897 p. 185 ff. and 342.

Chapter One

THE SEDER OLAM

The oldest Jewish chronicle is the *Seder Olam Rabba,* edited by Jose ben Halafta,[2] who died about 160 CE. It is mentioned in the Talmud and lists the Biblical and post-Biblical events until the revolution of Bar Kochba. From its data, later sources have derived the years of various events. Here we can cite a few passages in the Talmud, and especially the *Seder Olam Zutta* (8th century), which completes the *Seder Olam Rabba* by adding the numbers of the years to the skeleton outline and continuing it until R. Hazub (ca. 800 CE). The following extract will show the method of the SO.

		Born in	Begat[3] a son at the age of	Lived afterwards	Total years of his life	Died in	Genesis
1)	Adam	0	130	800	930	930	V 3-5
2)	Seth	130	105	807	912	1042	6-8
3)	Enosh	235	90	815	905	1140	9-11
4)	Kenan	325	70	840	910	1235	12-14
5)	Mehalalel	395	65	830	895	1290	15-17
6)	Yared	460	162	800	962	1422	18-20
7)	Enoch	622	65	300	365	987	21-23
8)	Metuselah	687	187	782	969	1656	25-27
9)	Lamech	874	182	595	777	1651	28-31
10)	Noah	1056[4]					
11)	Noah was 600 years old at the time of the flood, which, therefore, took place in . . .					1656	VII 6

From now only short extracts from the SO:

12)	Until Division of Languages	340	
13)	Division of Languages	1996	
14)	Until Birth of Isaac	52	
15)	Birth of Isaac	2048	
16)	Until Exodus from Egypt	400	
17)	Exodus from Egypt (Nissan 15th)	2448[5]	
18)	Wandering in the Desert	40 or 41[6]	
19)	Moses died on Adar 7th; entry into Canaan 33 days later, on Nissan 10th	2488 or 2489	Josh. IV 19
20)	Until the erection of the first Temple 440 years, exactly 1 month and	440 or 439[7]	I Kings 6 1
21)	Erection of the First Temple	2928	
22)	The First Temple stood	410[7a]	
23)	Destruction of the First Temple	3338[8]	
24)	The Babylonian Captivity.	70	
25)	Erection of the Second Temple	3408	
26)	The Second Temple stood	420	
27)	Destruction of the Second Temple	3828	

2) See *Niddah* 46b.

3) By ויולד, SO must mean the time of birth, not that of cohabitation.

4) The *Seder Olam Zutta* begins: "From Adam to Noah are 1056 years." Only the *Seder Olam Rabba* gives the specification of this number.

5) Abraham ibn Daud in *Seder ha-Kabbalah* and Meiri on *Pirke Aboth* erred by putting the exodus in 2448 and the revelation on Sinai in 2449 although both events took place in the same year, only 7 weeks apart from one another, while Duran (note 20) puts both, the exodus and the revelation correctly in the same year, 2448.

6) The SO puts these events at the end of the 41st year after the exodus (2489 AM), while the *Seder Olam Rabba* puts them in the 40th year. Since according to a number of passages in the Bible the Israelites were in the wilderness 40 years, *Seder Olam Rabba* seems to be right, while the *Seder Olom Zutta* puts these incidents one year too late. But this leaves the correct number of years till the erection of the First Temple, namely 440 (exactly 439 years and 1 month), while according to the *Seder Olam Rabba* 441 *years* (440 years and 1 month) elapsed (p. 11, l. 20).

David Ganz in his *Tzemach David*, apparently not recognizing the contradiction between the *Seder Olam Rabba* and *Zutta* adopted both opinions, saying that Moses died in the 40th year, which was 2488, and that the Israelites entered the country 33 days later in the 41st year, which he calls 2489. He explains "41st year" because the years to the exodus start from Nissan. However, he overlooks the fact that then the year was still 2488 and that 2489 only started 6 months later. He contradicts himself since he stated earlier that the exodus was in 2448 and that the Torah was given (49 days later) in the same year (2448).

According to the Talmud (*Gittin* 88b and *Sanh.* 38a) as explained by Rashi the first destruction was 850 years after the entry into Canaan (not after the exodus from Egypt as Lazarus Goldschmidt believes in *Der Babylonische Talmud*, vol. VI, p. 493 note 249 and vol. VIII, p. 607, note 162).

7) יום אחד בשנה חשוב שנה or מקצת השנה ככולה, *Annus inceptus habitur pro completo*, a fractional year is considered a full year (*pars pro toto*). See *Seder Olam Rabba* Chapt. IV and *RhS* 2b and 10b. This principle we find already in the Torah (II. M. 19, 1) where a part of a month is considered a whole month. See also note 14.

7a) בזאת. See Lev. r. 21, 8.

8) של"ח = 338.

Chapter Two

THE YEAR OF THE SECOND DESTRUCTION IN THE TALMUD

The above figure 3828, the year of destruction, especially stated in the SO, can also be derived from the Talmud as follows: In *Ab.Zar.* 9b we read in the name of R. Hanina (b. Hammah who died about 250 CE):

"Four hundred years after the destruction of the Temple if a man offers a field worth 1000 denars at the price of only 1 denar, do not take it. In a *baraita*[9] we learn: 4231 years[10] after the creation if a man offers a field worth 1000 denars at 1 denar, do not take it. What is the difference between these two passages? Three years! The *baraita* has three years more." So far the Talmud.

In other words:

Destruction year plus 400 . . . . . = 4231 AM minus 3 or
Destruction year plus 400 . . . . . = 4228 AM
minus 400 . . . . . minus 400
Destruction year . . . . . 3828 AM

According to the Talmud, therefore, ... 3828 AM was the year of the destruction.

To change AM into CE we must deduct 3761 on dates between RhS and December 31 or 3760 on dates between January 1 and RhS[11]. Since the destruction took place 7 weeks before RhS, we subtract . . . . . 3760 and find prima facie that the Talmud puts the burning of the Temple in the summer of . . . . . 68 CE (67-68), instead of 70 (69-70), just as the SO does.

In Ch. IV, however, we shall prove that these two ancient sources actually did not err as to the time of the destruction but meant by 3828 the year 70 CE.

---

9) A doctrine not adopted into the Mishnah.

10) In the Talmud, *Sanh.* 97b we read that in 4291 the world will be like an orphan. The Gaon of Vilna reads 4231 instead, which would explain this number. Another explanation: It is seven times the number of the biblical laws (613 x 7 = 4291).

11) The present year 5714 corresponds with (1953)/1954. The differences are (3761) and 3760.

Chapter Three

THE VARIOUS METHODS OF COUNTING THE AM

We must now explain three different methods of counting the Era of Creation used in the Talmud and the rabbinical literature. (Two other methods which have no bearing on our proof will be discussed in ch. VI). The three methods are mentioned in the commentary of Rabbi Avadyah (born about 1325 CE) on Maimonides, *Hilchoth Kiddush ha-Hodesh,* VI, 8,[12] and by other sources listed by M. Kasher, *Torah Shelemah,* vol. XIII, p. 110. There is, to be sure, only one difference between the three methods. They are all based on the SO, they do not disagree in dating the various events, they have the same calendar and the same method of intercalating the leap months. Their only difference is that they design different numbers to the same year.

Before we continue we submit the following table which lists the three methods and shows their relation to one another.

		Beginning of year
AM I	בהדיו =2nd day, 5 h.204 chal.(11 h. 11 m. 20 s.p.m.),	1 AM I
	+4 d 8 " 876 " (8 " 48 " 40 ")	
AM II	ויו =6th day, 14 " --- " (8 " -- " -- " a.m.),	2 AM I and 1 AM II
	+4 d 8 " 876 " (8 " 48 " 40 ")	
AM III	גכיב תתעיו =3rd day, 22" 876 " (4" 48 " 40 " p.m.),	3 AM I, 2 AM II and 1 AM III

First the following remarks:

The year in this respect starts with the moment of the mean *molad* (mean conjuction, mean astronomical New Moon) of the month of Tishri.

The day begins in this respect throughout the year at 6 p.m. according to our way of counting the hours. Monday, for

12) My beloved teacher, Klausrabbiner Eduard (Jecheskel) Duckesz in Altona (Germany), שמסר נפשו על קדשת השם, drew my attention to this passage many years ago. According to the "*Aufbau*" he died in Auschwitz on March 5, 1944 (Adar 10, 5704). זכר צדיק לברכה.

instance, starts on Sunday 6 p.m. This moment is called Monday 0 h in the Jewish calendar.

All times are Jerusalem times.

The hour in Jewish chronology is divided into 1080 *halakim* which means that each *helek* is equal to 3 1/3 seconds.

We shall now explain the above table.

Line 1: We shall, throughout this study, for the sake of convenience, call the first method

AM I.

Its literary name is בהר"ד indicating the time of the mean molad at the beginning of its year 1, namely

ב = 2 = 2nd day, Monday,

ה = 5 = 5 hours after the beginning of Monday, which is Sunday 11 p.m.

ר"ד = 204 = 204 *halakim* = 11 min. 20 sec.

This moment would fall almost 12 months before creation and is, therefore, proleptic, a chronological fiction. It is also called Molad Tohu.[13]

The greatest part of the alleged year 1 AM I was before creation, and only its last 5 days and 14 hours were after the beginning of creation.[14] [15]

The average length of each synodic month in Jewish Chronology is 29 days, 12 hours, 793 *halakim* (or 44 min. 3

---

13) = waste (Gen. 1. 2).

14) In accordance with *RhS* 2a, where we read that the years of the Kings are counted from the 1st of Nissan, and that if a king started his reign shortly — even 1 day — before Nissan, this time is counted as a full year, so that on the 1st of Nissan his 2nd year began. See also note 7.

15) According to the opinion of those Talmud teachers who hold that the world was created "in Nissan" (25th of Adar) instead of "in Tishri" (25th of Ellul) 6 months of the year 1 were before, and 6 months after creation (*RhS* 10b). For them the first molad after creation was on Wednesday 9 h 642 hal. (3 h 35 m 40 s. a.m.) which is the mean between AM I and AM II, namely:

1/3 sec.) If we multiply this amount by 12 we find the length of the year as mentioned in line 2 (omitting the 50 full weeks).

We now add line 1 to line 2 and find line 3. These figures give us the moment in which year 2 AM I (בהר"ד) starts. This moment is at the same time the beginning of year 1 according to the second method for which we have coined the expression

AM II

and which is usually called ו"ד, meaning

ו = 6 = 6th day, Friday,

י"ד = 14 = 14 hours after Thursday 6 p.m., i.e., Friday 8 a.m.[16]

This day marks the time when Adam was created.

We now add to the molad AM II (line 3) once again the length of the year, omitting the weeks (line 2) and find the result in line 5.

These figures give us the moment in which year 3 AM I and year 2 AM II start. This moment is at the same time the beginning of year 1 according to the third method for which have coined the expression

AM III

and which is usually called ג' כ"ב תתע"ו, meaning

ג = 3 = 3rd day, Tuesday,

2nd day	5 h	204 hal.	(11 h	11 m	20 s	p.m.)
2	4	438	(4	24	20	)
4	9	642	(3	35	40	a.m.)
2	4	438	(4	24	20	)
6	14	---	(8	--	--	a.m.)

See Rashi *RhS* 12a, Tossafoth *RhS* 8a, AbH page 46, Levin, *Otzar ha-Geonim*, vol. 5, *Sefer* 3, page 17, note 10. (Was the world created in Nissan or Tishri? "No question, in "Tishri," remarked someone" — בראשית ברא — בראשית are the same letters as א' בתשרי).

16) The fact that this is a round number shows that the counting to ו"ד was the original and that the others are deductions thereof.

Early Rabbinic writers found a connection between וי"ד and the report we read in *Sanh.* 38b telling us in the name of Rabbi Johanan ben Hanina that the day consists of 12 hours,

		i.e. hours as counted today
in the 1st	Adam's dust was gathered,	(6 - 7 a.m. or 6 - 8 p.m.)
in the 2nd	it was kneaded into a shapeless mass,	(7 - 8 or 8 - 10)
in the 3rd	his limbs were shaped,	(8 - 9 or 10 - 12
in the 4th	a soul was infused into him,	(9 - 10 or 12 - 2 a.m.)
in the 5th	he arose and stood on his feet,	(10 - 11 or 2 - 4)
in the 6th	he gave (the animals) their names,	(11 - 12 or 4 - 6)
in the 7th	Eve became his mate,	(12 - 1 p.m. or 6 - 8)
in the 8th	they ascended to bed as two and descended as four (with Cain and his twin sister),	(1 - 2 or 8 - 10)
in the 9th	he was commanded not to eat of the tree,	(2 - 3 or 10 - 12)
in the 10th	he sinned,	(3 - 4 or 12 - 2 p.m.)
in the 11th	he was tried,	(4 - 5 or 2 - 4)
in the 12th	he was expelled	(5 - 6 or 4 - 6)

(see *Handbuch* page 463).

The rabbis divided the day from morning to evening into 12 hours and found that וי"ד (8 a.m.) was between the hours in which Adam's dust was kneaded and his limbs were shaped; but this implies the strange thought that the Creator of the world interrupted his work during the night and started again at 6 a.m. See *Ber. Rabba* 12, 14 and Louis Ginzberg, *The Legends of the Jews*, vol. V, note 97.

I believe that the division of the day into 12 hours here refers to the ancient Babylonian double hour (kosbu). Then וי"ד would fall between the hours when Eve became Adam's mate and their intercourse.

However, I do not see any relation between Adam's dust or limbs and the beginning of the month, neither am I able to discover a connection between marriage and cohabitation of the first couple with the conjunction of the moon. I, therefore, believe that וי"ד has nothing to do with the above quoted Talmudic passage.

Incidentally, kosbu, the Babylonian name for the double hour, is related to the Hebrew root כזב, meaning usually deceive but also, especially in Rabbinic Hebrew, used for *running out, drying out* (see Mishnah Parah Ch. 8, 9, a number of passages in the Toseptha, etc.) Kosbu means the time during which the ancient water clock ran out. In this sense כזב is also used once or twice in the Bible but sometimes misunderstood.

Isaiah 58, 11 gives the proper sense only if understood as follows: "And the Lord shall guide thee continually, and satisfy thy soul in draught, and relieve thy bones; and thou shalt be like a watered garden and like a spring of water אשר לא יכזבו מימיו whose waters *dry not out.*" This verse is correctly understood, among

כ"ב = 22 = 22 hours after Monday 6 p.m., i.e., Tuesday 4 p.m.

תתע"ו = 876 = 876 *halakim* = 48 min., 40 sec.

This was the day on which Adam was 1 year old.

It should be kept in mind that all years to AM III count the completed years of Adam's life.[17] They indicate his age and after his death, the age of mankind.

The table which follows now is a short summary for further reference. Under AM III some figures already mentioned in Ch. 1 will have to be repeated.

We have to mention at this point that since the fall of 312 BCE the Jews have used the *Seleucidan Era,* that they counted from the *Destruction Era* after the Destruction of the Second Temple and that they later introduced the *Era of Creation.* At present we are using AM I.

More about this later.

---

others, by the septuagint καὶ ὡς πηγὴ ἦν μὴ ἐξέλιπεν ὕδωρ the vulgata (cuius non deficient aquae), Avadyah mi-Bertinoro (in his commentary on Parah, *loc. cit.*) and by Ottensoser (ed. Mendelssohn) who translates: " . . . gleicht frischen Wasserquellen, dessen Stroeme nie versiegen." Wrong, however: deceive, truegen, taeuschen (Duhm, Marti, Orelli, Budde, Kittel, Kautsch, Sachs). Jeremiah 15, 18, may have to be understood accordingly. אכזב מים may mean: *dried out* (instead of: deceitful brook, truegerischer Bach).

17) "Like a man whose son is born on Pesach. He has fulfilled his first year on Pesach of the next year." (R. Avadyah *loc. cit.*)

18) Not 3762-61 as W. Kubitschek says in contradiction to his own note No. 3. (*Grundriss der antiken Zeitrechnung,* page 131, *Handbuch der Altertumswissenschaften,* 1 Abt., 7. Teil.)

19) See Rashi on II M. 12, 40.

20) One of the few early writers who understood the difference between AM I, AM II and AM III was Simon Duran (born 1361). Zacuto in *Sefer Yuchassin* (ed. Frankfurt 1924, page 6a) says that according to AbH and *Yessod Olam,* the Israelites left Egypt in the 16th year of the *Mahzor katon,* while according to Simon Duran this was in the 17th year to וי"ד (AM II) and the 18th to בהר"ד (AM I). Duran's opinion is correct, because

	Creation Era			Christian Era	Seleuc. Era	Destr. Era
	בהר"ד	ויי"ד	ג' כ"ב תתע"ו			
	AM I	AM II	AM III	BCE & CE	SE II	DE
1) Molad Tohu	1			(3761)-3760[18]		
2) Creation of Adam	2	1		(3760)-3759		
3) Adam 1 year old	3	2	1	(3759)-3758		
4)	+1655	+1655	+1655	-1655		
5) Flood	1658	1657	1656	(2104)-2103		
6)	+392	+392	+392	-392		
7) Birth of Isaac	2050	2049	2048	(1712)-1711[19]		
8)	+400	+400	+400	-400		
9) Exodus from Egypt	2450	2449	2448	(1312)-1311[20]		
10)	+ 40	+ 40	+ 40	- 40		
11) Entry into Canaan	2490	2489	2488	(1272)-1271[6]		
12)	+440	+440	+440	-440		
13) First Temple built	2930	2929	2928	(832)- 831		
14) First Temple stood	+410	+410	+410	-410		
15) First T. destroyed	3340	3339	3338	(422)- 421[1]		
16) Babyl. Captivity	+ 70	+ 70	+ 70	- 70		
17) 2nd T. consecrated	3410	3409	3408	(352)- 351		
18)	+ 40	+ 40	+ 40	- 40		
19) Start of SE II	3450	3449	3448	(312)- 311	1	
20)	+310	+310	+310	-310	+310	
21)	3760	3759	3758	(2BCE)-1BCE	311	
22)	3761	3760	3759	(1BCE)-1 CE	312	
23)	3762	3761	3760	(1 CE)-2 CE	313	
24)	3763	3762	3761	(2 CE)-3 CE	314	
25)	+ 67	+ 67	+ 67	+ 67	+ 67	
26) 2nd T. destroyed	3830	3829	3828	(69)- 70	381	1
27)	+149	+149	+149	+149	+149	+149
28)	3979	3978	3977	(218)- 217	530	150
29)	+ 22	+ 22	+ 22	+ 22	+ 22	+ 22
30)	4001	4000	3999	(240)- 241	552	172[21]
31)	+686	+686	+686	+686	+686	+686
32)	4687	4686	4685	(926)- 927	1238	858
33)	+ 63	+ 63	+ 63	+ 63	+ 63	+ 63
34)	4750	4749	4748	(989)- 990	1301	921
35)	+116	+116	+116	+116	+116	+116
36)	4866	4865	4864	(1105)-1106	1417	1037
37)	+ 69	+ 69	+ 69	+ 69	+ 69	+ 69
38)	4935	4934	4933	(1174)-1175	1486	1106
39)	4936	4935	4934	(1175)-1176	1487	1107
40)	4937	4936	4935	(1176)-1177	1488	1108
41)	4938	4937	4936	(1177)-1178	1489	1109
42)	+ 9	+ 9	+ 9	+ 9	+ 9	+ 9
43)	4947	4946	4945	(1186)-1187	1498	1118
44)	+761	+761	+761	+761	+761	+761
45) State of Israel[22]	5708	5707	5706	(1947)-1948	2259	1879
46)	+ 4	+ 4	+ 4	+ 4	+ 4	+ 4
47) Last Shmitta year	5712	5711	5710	(1951)-1952	2263	1883
48)	+ 2	+ 2	+ 2	+ 2	+ 2	+ 2
49) Present year	5714	5713	5712	(1953)-1954	2265	1885

The lines 4, 6, 8 etc. are introduced to make the checking of the following numbers easier for the reader.

Lines 21 to 24 are introduced to avoid confusion by the change from BCE to CE and in order to show that there was no year 0.[23]

Lines 28ff are introduced because we shall refer to them during the course of this book.

For the "differences" between the various eras, see page 36.

Chapter Four

PROOF THAT THE SO AND THE TALMUD PUT THE YEAR OF THE SECOND DESTRUCTION CORRECTLY IN 70 CE

The general belief is that the SO and the Talmud erred by placing the Second Destruction in 3828, because it is assumed that 3828 is the equivalent of 68 CE. We maintain, however, that this belief is false, because the SO and

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2448 AM III : 19 = 128, Remainder 16
2449 AM II : 19 = 128, Remainder 17
2450 AM I : 19 = 128, Remainder 18

21) קע"ב לאחר חורבן נשלמו ארבע אלפים מבריאת עולם (Sherirah Gaon).

22) תשב"ן = 708. Incidentally, to the rule את בש גר דק הצ ופ now can be added זע, the 7th day of Pesach and Israel's Independence day, (יום העצמאות, Iyar 5th) fall on the same day of the week.

23) The chronologists and historians do not count a year "O". To them 1 BCE is followed by 1 CE. Only the astronomers have a year "0" between - 1 and + 1. We, in this study, of course, follow the first method. The outbreak of World War I in Germany was on the 9th of Ab, 1914. Some people believe that this was, on the day, 2500 years after the destruction of the First Temple (586 + 1914 = 2500). But this is a mistake, it was only 2499 years. (BCE + CE minus 1).

the Talmud used AM III as their base. This means that their year 3828 corresponds with 3830 AM I or (69)-70 CE (p. 19, l. 26).

Our claim that the SO and the Talmud counted to AM III is based on the following consideration:

The SO starts with and is based on Gen. V, 3-5 which reads as follows:

ויחי אדם שלשים ומאת שנה ויולד בדמותו בצלמו ויקרא את שמו שת: ויהיו ימי אדם אחרי הולידו את שת שמונה מאות שנה ויולד בנים ובנות: ויהיו כל ימי אדם אשר חי תשע מאות שנה ושלשים שנה וימת:

"And Adam lived one hundred and thirty years and begat a son in his own likeness, after his image, and called his name Seth. And the days of Adam after he begat Seth were eight hundred years; and he begat sons and daughters. And all the days that Adam lived were nine hundred and thirty years, and he died." In other words, Adam *after* he had *lived* or *after* he had *completed* 130 years, or when he was 130 years old, begot his son Seth. To those who call the day of his birth RhS of year 0 this was in the year 130 AM
To those who call the day of Adam's birth RhS of year 1 he thus was 130 years old and begot his son in the year 131 AM
while to those who call the day of Adam's birth RhS of year 2 this was naturally in the year 132 AM

Just the same is true for the year of the Second Destruction: How old would Adam have been, or in other words, how old was mankind on RhS before the Destruction? According to SO and Talmud 3828! In which year was this?
To those who call the day of Adam's creation RhS 0:
in 3828, (AM III)
To those who call the day of Adam's creation RhS 1:
in 3829, (AM II)
To those who call the day of Adam's creation RhS 2:
in 3830, (AM I)

We thus have proved that *according to SO and Talmud the Destruction took place in* 3830 *AM I which is* 70 *CE and which agrees with the historic truth.*

The only Rabbinical sources within 1500 years, as far as this writer was able to find, which did not err as to the destruction year were Maimonides, two Karaite inscriptions and perhaps Tobia ben Eliezer.

Maimonides' chronology will be considered in Ch. V and XI and the Karaite documents on pp. 40 and 42.

Rabbi Tobia who lived in Bulgaria in the 11th century in his *Midrash Lekah Tob* (*Pesikta Sutarta*), *Parshat Sh'lach l'cha*[24] puts 4866 AM = 1417 SE = 1037 DE = 1527 to the era of the first destruction. The reader will find on p. 19, l. 36 that the first three figures are correct and also the fourth figure agrees with Jewish chronology.[25]

Jehuda Halevy in *Kuzari* III, 67 says that Rabbi composed the Mishnah in 530 SE, and that this was 150 years after the destruction. This would put the destruction correctly in 381 SE or 70 CE. However, it is possible that Halevy wanted to express himself only in round figures. (See p. 19, l. 28.)

All other medieval and even some present-day Rabbinical writers who mentioned the year of the Second Destruction erred, because, as it seems, they misunderstood the old sources or copied from one another. Some of the authors who put the destruction in 3828 (68 CE) are:

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24) *Midrash Lekach Tob*, ed. Solomon Buber, Vilna 1880, vol. 4, p. 220.

25)

3340	=	1 (p.19,line 15)
+1526		+1526
4866		1527

However, from several other places it appears that Tobias puts the destruction in 68 or 69 CE and it seems impossible to determine whether he contradicted himself, whether scribes spoiled his correct text or whether they corrected a mistake. See Buber's introduction, page 12 ff.

Rashi
Rabbenu Tam (*Sefer ha-Yoshor* § 491)
Meiri (*Beth ha-Bechirah*)[26]
Estori ha-Farchi (*Kaftor va-Pherach,* ch. 51)[34]
Yizchak Israeli (*Yessod Olam,* § 18)
Joseph ben Zadik (*Kizzur Zecher Zaddik*), see Neubauer[27]
Isaac ben Moses ha-Levy (Profiat Duran, Efodi)[28]
Gedaliah ibn Yahya (*Shalsheleth ha-Kabbalah*)
David Ganz (*Tzemach David*)
Yehiel Heilprin (*Seder ha-Doroth*)
Seder Olam Zutta (anonymous) Neubauer page 177
Seder Olam (anonymous) Neubauer page 179
Fragment Neubauer page 196
Malbim on *Daniel* VII, 25 and XII, 13
Juda Loeb Rapoport (*Chroniken der Erinnerungstafeln in den juedischen Kalendern*)
Solomon Buber[24]
Kokisow (*Haggadah schel Pesach,* St. Petersburg, 1889 Karaite)
M. Kasher (*Passover Haggadah,* 1950).

The following autthors put the burning of the Temple in 3829 AM (69 CE):

Sherira Gaon[29]
Isaac ben Abba Mari, (*Ittur*)

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26) In his commentary on *Pirke Aboth* and *Ab. Zar.* 9a.

27) Neubauer, *Medieval Jewish Chronicles,* Oxford, 1893-95.

28) See AbH, *Sefer ha-Ibbur,* page 121. Duran gives several figures including the year of the Second Destruction to AM II maintaining that they are to AM I. But he does place the beginning of SE and CE correctly in 3450 (Tishri 24) and 3761 AM I (p. 19, l. 19 & 22).

29) See Harkavy, *T'shuboth ha-Geonim,* page 20, No. 45 and note on page 350. Sherira Gaon puts the destruction in 380 SE. Since he wrote the above *responsum* in 1301 SE, which he equates correctly with 921 DE, he puts the destruction in (68)-69 and must have called this year "0" DE instead of 1 DE (p. 19, l. 34).

Abraham bar Hiyyah, (*Sefer ha-Ibbur*)
Abraham ibn Daud, (*Seder ha-Kabbalah*)
Nathan ben Yehiel, (*Aruch*)
A. Spier (*The Comprehensive Hebrew Calendar,* page 225).

For more details see Hayim Bornstein in *Hatekufah.*[30]

Even Graetz,[31] M. Steinschneider[32] and Strack and Billerbeck[79] erred in believing that the Talmud puts the destruc- in 68 CE.[33]

In the Sephardic congregations it is customary to mention in the services on Ab 9th how many years have elapsed since the burning of the Temple. Since they still figure from 68 CE (3828 AM I) they will pronounce the number 1886 (instead of 1884) on Ab 9th, 1954 on which day thus their year 1887 DE begins.[34] [35]

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30) For details see the excellent study by Chaim Bornstein in *Hatekufah,* vol. VIII, page 281 ff, vol. IX, page 202 ff., vol. XI, page 320 ff. According to Azariah di Rossi (*Meor Enayim,* Vienna 1829, p. 152a) counting the AM was introduced in many countries about 1100 CE and until the 13th century adopted by the greater part of the Jews.

31) Graetz, *Geschichte,* Leipzig 1886, page 441, note 14 and *Monatsschrift,* 1880, page 436, footnote.

32) In Ersch and Gruber, *Allgemeine Encyklopaedie,* 27. Teil, *Jued. Litteratur* § 10, page 392.

33) See also L. Herzfeld, *Geschichte des juedischen Volkes.* Nordhausen, 1855, page 461.

34) Estori ha-Farchi in *Kaftor va-Pherach* says: "If you want to remember the year of the destruction subtract 3828 and so do we in the land of Canaan in order to commemorate the year in the night of the 9th of Ab before the congregation because of *Agmath Nefesh.*"

This custom was probably first introduced when and where the counting was done to DE and its purpose might originally have been to remind the congregation that the number of the year changed on that day.

The above difference of 3828 puts the destruction in the year 68 CE.

Chapter Five

MAIMONIDES' CHRONOLOGY COMPARED WITH THAT OF ABRAHAM BAR HIYYAH

Maimonides in *Mishneh Torah,*[35a] *Hilch. Shmittah v'Yobel.* Ch. X, Hal. 4 says that he wrote this chapter in 1107 DE = 1487 SE = 4936 AM I (see p. 19, l. 39).

In *Hilkh. Kiddush ha-Hodesh* Ch. XI, Hal. 16 he puts 1109 DE = 1489 SE = 4938 AM I (see p. 19, l. 41).

In one of his responsa he puts 1498 SE = 4947 AM I (p. 19, l. 43).[36] That he always figures to בהר"ד (AM I) is stated in *Hilch. Shmittah v'Yobel,* X, 2[37] and in *Hilkh. Kiddush ha-Hodesh* VI, 8,[38] and also in his חבור בחכמת העבור Chapt. III.

From these dates we derive the following figures as to Maimonides' chronology.

Jacob Saphir in his *Eben Saphir* (I, page 107b) reports that he witnessed the services of Yemenite Jews on the 9th of Ab 1859 when they pronounced that since the first destruction 2280 and since the second destruction 1790 years had passed which puts the burning of the Second Temple in 69 CE.

35) This writer has discussed these questions in full length in his article: "A Perplexing Passage from Maimonides" in JQR 1946, pp. 149-164. On page 154 and 162 he has also expressed the belief that the Talmud erred as to the destruction year. It was only later that he came to the proper understanding of the passage in question.

35a) *Mishneh Torah* was completed 1178, not 1180. See S. Gandz in Proceedings, v. XVII, 1947-48, p. 1 ff.

36) *T'shuboth ha-Rambam,* Alfred Freimann, Jerusalem 1934, No. 155, page 153.

37) ליצירה מראש השנה מאחר מולד אדם הראשון שהיא שנה שניה ליצירה:

38) והמולד הראשון שממנו תתחיל הוא מולד שהיה בשנה הראשונה של יצירה והוא היה בליל שני חמש שעות בלילה ומאתים וארבעה חלקים. סימן להם בהר"ד וממנו הוא תחלת החשבון:

	AM I	SE	DE	BCE&CE	p. 19
1) Molad Tohu	1			(3761)-3760	line 1
2) Adam born RhS	2			(3760)-3759	line 2
3) Beginning of SE I	3450	1		(312)-311	line 19
4)	+380	+380		+380	
5) Second Destruction	3830	381	1	(69)-70	line 26
6)	+1105	+1105	+1105	+1105	
7)	4935	1486	1106	(1174)-1175	line 38
8)	4936	1487	1107	(1175)-1176	line 39
9)	4938	1489	1109	(1177)-1178	line 41
10)	+ 9	+ 9	+ 9	+ 9	
11)	4947	1498	1118	(1186)-1187	line 43
12)	+767	+767	+767	+767	
13) Present year	5714	2265	1885	(1953)-1954	line 49

These figures give the following differences:

	SE	CE	DE
14) AM I	3449	(3761) 3760	3829
15) SE		(312) 311	380
16) CE			(68) 69

All figures in Maimonides' chronology agree with one another and also with those we shall find in Ch. VII. (Compare with page 36). That Maimonides puts the Second Destruction correctly in 70 CE we shall once again prove in Ch. XI.

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One of the most important books on Jewish and general chronology is *Sefer ha-Ibbur* by Abraham bar Hiyya, (born 1065) who lived in Spain as a geometer, astronomer, mathematician and philosopher. Maimonides who was born in 1135, must have been familiar with his works.[39]

In part II, § 7, page 96,[40] AbH states that he and all the Western Jews use AM I, while the Easterners, including Saadyah Gaon, count to AM II. AbH puts the Second Destruction in 3828 AM II and 3829 AM I. This mistake of 1 year seems to be due to the fact that he mentioned only AM I and AM II and apparently did not know of the counting by AM III. He, therefore, might have taken the Talmudic figure 3828 as AM II, thus translating it into 3829 AM I instead of taking 3828 as AM III and translating it into 3830 AM I. We shall

39) See Abr. Geiger, *Moses b. Maimon*, page 70.

40) Ed. Filopowski, London 1851. From page 112 it appears that AbH wrote this book in 1123.

now give an extract from AbH's figures as they appear on page 99:

1) Beginning of SE II in 3450 AM I
2) Difference between SE II and AM I: 3449
3) Difference between SE II and AM II[41]: 3448
4) Destruction of Second Temple 3828 AM II
5) Difference between DE and SE II: 380
   נ"א other reading 379[42]
6) AM I minus 3449 = SE II
7) SE II plus 3449 = AM I
8) AM minus 3828 = DE
9) DE plus 3828 = AM
10) SE II minus 380 (other reading 379)[42] = DE
11) DE plus 380 (other reading 379)[42] = SE II

On page 109 the author says that, according to the Christian belief, the founder of the Christian faith was conceived on March 25, 3760 AM, born on December 25, 3761 AM, and circumcised one week later, on January 1. Now, as if we did not have sufficient confusion the Christians, too, have two different methods of counting. In AbH's days they figured their year 1 from January 1 preceding the conception in 3760 (*ab annunciatione*) while according to present-day usage, year 1 starts 1 year later (*a nativitate*), i.e., in 3761, three or four months after RhS, which agrees with p. 19, l. 22.[43]

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41) והוא לאנשי מזרח אשר מונים לבריאת עולם מן וי"ד גתמ"ח.

42) However, 380 is wrong, while 379 is correct, as we can prove by simple algebra:

AM I minus DE = 3828
AM I minus SE = 3449

If we subtract these equations from each other, we find

SE minus DE = 379

43) Ideler, *Handbuch der mathem. und techn. Chronologie*, vol. 2, page 329 and 382.

AM minus CE, therefore, is 3760. We can now note the differences between the eras in AbH's chronology as follows:

		SE II	CE	DE
1)	AM I	3449	3760	3828
2)	SE II			379

Now we shall compare Maimonides' figures with those of AbH:

	Maimonides AM I	AbH AM I	p.26 line	p.27 line	p.28 line
3) Creation	1	1	1		
4)	+3449	+3449	14	2	1
5) Beginning of SE II	3450	3450	3	1	
6)	+380	+379	15	5	2
7) 2nd Destruction	3830	3829	5 & last§		
8)	-3760	-3760	14		1
9)	70 CE	69 CE	5		
	69-70 CE	68-69 CE			

From this table too, it appears clearly that AbH erred by 1 year in putting the destruction in 69 while Maimonides puts this event correctly 1 year later in 70 CE.

In this connection we must mention Abraham ibn Daud, who lived in Toledo, Spain, from about 1100 to 1175. As mentioned before, in his *Seder ha-Kabbalah,* he made the same mistake as AbH and put the destruction in 3829 AM (69 CE). The fact that Maimonides knew his works well[44] (his philosophy was greatly influenced by Abr. ibn Daud) confirms our claim that Maimonides recognized the mistake of his older contemporaries and contradicted and corrected it by putting the destruction 1 year later.

Chapter Six

THE FOURTH AND THE FIFTH METHOD OF COUNTING AM

In a manuscript found in the Genizah in Cairo[45] we read the following report: "Why do we count בהר"ד ? On the

44) See J. Guttmann, *"Maimonides und Abraham ibn Daud"* in Bacher-Brann-Simonsohn, *Moses ben Maimon,* vol. 2, page 233.

45) See S. Schechter, *Saadyana,* page 103.

fourth day God created the sun in order to shine and precede the moon. At the beginning of the fourth night God put them in the sky and they both served until the moon at 20 hours and 408 *halakim* on that fourth day overcame the sun. And God became angry at the moon and diminished her size to *molad* (New Moon) . . . and in the second year the moon stood in (i. e., the molad took place at) בהר"ד.[46] In other words, a fourth method, דכת"ח (AM IV) places the first molad on ד = the fourth day of creation, כ = 20 hours, ת"ח — 408 *halakim* which moment is exactly 12 months before בהר"ד, namely:

4 d 20 h 408 hal - Wednesday 2 p.m. 22 m 40 s

+4 " 8 " 876 " 4 d 8 h 48 " 40 "

2 d 5 h 204 hal - Sunday 11 p.m. 11 m 20 s

However, for AM IV, the counting of years does not start at דכת"ח, but only 1 year later at בהר"ד. AM IV thus is a cross between AM I and AM III. Year 1 AM IV starts on the same day as year 1 AM I. On the other hand, according to AM IV Adam was already 1 year old on this day. AM IV thus puts the creation 2 years earlier than the other three methods. A comparison between the four methods reads as follows:

	Beginning of year				Age of Adam or Mankind			
	AM I	AM II	AM III	AM IV	AM I	AM II	AM III	AM IV
								Birth
	1			1				1
	2	1		2	Birth	Birth	Birth	2
	3	2	1	3	1	1	1	3
2nd dstr.	3830	3829	3828	3830	3828	3828	3828	3830

AM IV is basically wrong because its first year begins 12 months before בהר"ד instead of 13 months. The alleged year before 1 AM I would have to be an imaginary leap year.

The fifth method (AM V) is based on the belief that the SO does not include the year of the flood in its counting.[47]

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46) For a similar story with exactly the same date and time see *Targum Jonathan* on Gen. I, 16. See also PdR, Chapter 6.

47) See *Ber. Rabba* 32, 9.

This method, therefore, counts 1 more in each and every year after the flood.

All five methods have in common their basis in the SO. AM IV and V are probably never used in practice. In non-Jewish literature we find more than 100 different countings of AM based on the Biblical text.

Chapter Seven

THE SELEUCIDAN ERA

The Seleucidan era was introduced after the battle of Gaza which Seleucus I Nicator, the general of Alexander the Great, won against Demetrius Poliorketes. The battle took place in the spring or summer of 312 BCE. The exact date is not known. Several countries and cities started the counting of the SE in different epochs. The opinions as to how many different SE systems were used are divided.[48] We are acquainted, for instance, with the following four SE eras:

1) Some peoples started year 1 SE immediately after the battle of Gaza and began year 2 a few months later in autumn 312[7] (SE I).

2) The Jews and the Syrians started year 1 SE in autumn 312, on October 24th (SE II) p. 19, l. 19).

3) The Babylonians began it on their official New Year's day on April 3rd, 311, while

4) the so-called Greek era or the era κατὰ Χαλδαίους [49] which was especially used in Persia started even later, in autumn 311 (SE III).

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48) "Das Problem beschaeftigt die Forschung seit der Renaissance, von einer Einigung sind wir aber ebenso fern wie im 17. Jahrhundert." I. Heinemann in Pauly's *Real-Encyclopaedie der classischen Altertumswissenschaft*, vol. 14, p. 783 ff.

49) Chaldeans = Astrologers. See Mandelkern's concordance, 1936, p. 1462 f. under כשדים.

The Jews used SE II in the Orient until the 16th century.[50] It is employed even today by the Yemenite Jews and by some Christian sects in Syria.[51] The *American Ephemeris and Nautical Almanac,* U. S. Naval Observatory, for the year 1951 page XV reads as follows: "The year 2263 of the Grecian era, or the era of the Seleucidae, begins in the present-day usage of the Syrians on September 1, 1951, or on October 1, 1951, Julian calendar (p. 19, l. 47), according to different sects; but in the ancient usage of Damascus and Arabia Petraea the year began with the vernal equinox."

The question as to whether the Jews in ancient times used SE's other than SE II does not have to be discussed in this study which deals primarely with the Jewish chronology in Talmudic and post-Talmudic times.

According to Solomon Zeitlin the Jews started their year 1 SE in autumn 313 BCE (SE I), while others maintain that the SE years Jewish style start in the spring.[52]

These opinions are erroneous. The fact has to be stressed that Jewish chronology known to us only applies SE II, the era year 1 of which started in autumn 312.

In both books of Maccabees the counting is done according to SE. I Macc., however, usually counts 1 year more than II Macc., for instance:

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50) In Egypt the SE were abolished by David Ibn-Abi Simra (Radbas) as late as about 1527 CE.

51) An interesting Yemenite get is copied in *Eben Saphir,* vol. 1, p. 62b.

52) See, for instance, Elias Bickerman, *Der Gott der Makkabaer,* p. 155 and H. Louis Ginsberg, *Studies in Daniel,* p. 77, note 14. Also Yitzhak Halevy in *Doroth ha-Rishonim* seems to have overlooked the fact that the SE year starts in the fall like the AM year. He usually combines the SE year with two instead of one AM year. In *Hel.* II Par. 49, for instance, he puts 631 SE

	I Macc	II Macc
Death of Antiochus IV Epiphanes	149 SE (6,16)	148 SE (11,21-23)
Siege of Temple by Antiochus V	150 SE (6,20)	149 SE (13,1)

According to I Macc. 4, 52 the reconsecration of the Temple took place on the 25th day of Kislev 148 SE so that we can assume that this was 147 SE according to II Macc.

According to I Macc., 6, 20, 49 and 53 the year 150 was sabbatical so that this must have been 149 according to the counting in II Macc. (p. 33, l. 6).

It seems that the author of I Macc. used SE I, while II Macc. applies SE II.

Professor Zeitlin in *"The First Book of Maccabees,"* (Philadelphia 1950), repeats his erroneous claim that the era used in I Macc. (SE I) is the era used throughout the Jewish chronology. This is in contradiction to countless passages in Jewish literature from which it is clear that the Jews in Talmudic and post-Talmudic times counted according to SE II which means that their year 1 SE actually started in autumn 312 as we shall prove from the table below. Naturally, Jews living in regions where the population used another SE may have followed the local custom. On pp. 61 and 62 cases are discussed where Jews used SE I, but they are rare exceptions in early times.

Incidentally, if we would accept Professor Zeitlin's theory it would seem that in Fostat a *get* was written on a Shabbat, November 11, 1144 instead of Friday (See page 44).

We now submit the following table:

= 4080-81 instead of 4080. Also Krauss, *Talmudische Archaeologie*, II, p. 118, erred by putting the beginning of SE in 311.

52a) Not 161 (Dubnow, Zeitlin etc.) or 160 (Graetz), but 162 BCE (Adar 13).

	BCE&CE	SE I	SE II	SE III	AM I	p. 19 line
1)	Summer 312-Fall 312	1			3449	
2)	Fall 312-Fall 311	2	1		3450	19
3)	Fall 311-Fall 310	3	2	1	3451	
	-145	+145	+145	+145	+145	
4) Chanukah	166-165	148	147	146	3596	
5) Death of Antiochus IV	165-164	149	148	147	3597	
6) Siege of T., Shmittah	164-163	150	149	148	3598	
	- 1	+ 1	+ 1	+ 1	+ 1	
7) Nicanor Day 52a	163-162	151	150	149	3599	
	-161	+161	+161	+161	+161	
8)	2-1	312	311	310	3760	21
9)	1-1	313	312	311	3761	22
10)	1-2	314	313	312	3762	23
11)	+416	+416	+416	+416	+416	
12)	417-418	730	729	728	4178	
	+727	+727	+727	+727	+727	
13)	1144/1145	1457	1456	1455	4905	
14)	1145-1146	1458	1457	1456	4906	
15)	1146-1147	1459	1458	1457	4907	
	+ 28	+ 28	+ 28	+ 28	+ 28	
16)	1174-1175	1487	1486	1485	4935	38
	+ 30	+ 30	+ 30	+ 30	+ 30	
17)	1204-1205	1517	1516	1515	4965	
	+749	+749	+749	+749	+749	
18)	1953-1954	2266	2265	2264	5714	49

Explanation:

Lines 4 to 6: History books, including Graetz and Dubnow, teach us that the reconsecration of the Temple (Chanukah) took place at the end of 165 BCE, the death of Antiochus IV Epiphanes in 164 and the siege of the Temple in the Shmittah year 163.

This writer believes that these events took place one year earlier, namely in 166, 165 and 164 BCE. The reason for the mistake seems to be that the counting in I Macc. was understood to be according to SE II, while it really is according to SE I.

I believe that I can prove my claim by referring to the Shmittah period.

Our last Shmittah year was (1951)-1952, 5712 AM I or 2263 SE II

If we deduct	3598	and 149
we find	2114	2114

a number divisible by 7 without a remainder. This would not be the case if we assume that the Shmittah year was 163 BCE (3599 AM I, 150 SE II). See also table of Shmittah years on page 75.

This proof, however, is valid only if we assume that the counting of Shmittah years was always done according to

the opinion of the Gaonim as transmitted to us by Maimonides, Hilch. Shmittah v'Yobel Ch. X, Hal. 5 (p. 67). In other words, we have to assume that the counting of Shmittah years never was interrupted by a Yobel year.

Zeitlin on I Macc. 4-52 gives us in the Greek original 148 SE (ὀγδόου καὶ τεσσαρακοστοῦ καὶ ἑκατοστοῦ) as the year of the reconsecration of the Temple. In his English translation, however, he changes this to 149 according to a reading in the Peshita and the Syriac. Such a procedure is not acceptable. A translator from one language to another at the same time probably changed the number of the year to fit in the SE system used in his own region.

Line 6: This year was sabbatical according to I Macc.

Jewish Chronology calls it	149 SE and not	150
Add 7 x 191 =	1337	1337

Line 16: The Shemittah year was, according to

Maimonides (p. 69, l. 31 & 32)	1486 SE & not	1487
Add	779	779

Line 18: According to the tradition of the Yemenite Jews and Syrian Christians (p. 19, l. 49 and p. 31) they started in fall 1953 2265 SE and not 2266

Countless more examples could be added.

The opinion of those who hold that the years of the SE in the Jewish chronology start in the spring[52] can be repudiated by quite a number of reasons, among others:

1) If the SE years would start in the *spring* their number would increase by 1 in the *spring*, which would mean that the difference between the SE and the AM year would become 1 less between spring and fall (3448) than between fall and spring (3449). Now, one of the Fostat *gittin* (p. 42) for instance, is dated Tuesday, Iyar 23, 1436 SE. If the SE year starts in the fall this was (plus 3449) in 4885 AM I. If the SE year starts in the spring it was (plus 3448) in 4884

AM I. Now, the 23rd day of Iyar was on a Tuesday in 4885 AM I (*K'viah* ה"כ"ו).[53] In 4884 this day was on a Friday (*K'viah* ז"ש"ג). Thus, the day of the week mentioned in the *get* (Tuesday) proves that the SE year starts in the fall.

2) The Talmud when it mentions the difference between SE and MA (p. 37) does not consider that difference to be another one in the summer than in the winter.

3) This writer believes that the Talmudic teaching that non-Jewish kings count their years from Tishri (*RhS* 3a and 8a) refers to the SE.

We are at this point in the position to present the following important tables for further reference. They show the *"differences"* between the various eras.

The eras used most frequently are underlined.

The differences are figuerd upon destruction in 70 CE. The CE is the one used at present (a nativitate).

The writer hopes that by this table he will make it easier for future writers to translate figures from one era to another, a problem which has confused even eminent scholars so often.[55]

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53) As anyone can compute for himself or find from lists, for instance in *Handbuch*, p. 611.

54) Leidecker in *Luach ha-Ivri* p. 110 erred when claiming that the difference between SE II and AM I is 3448 and between CE and SE II 312. The correct numbers are 3449 and 311.

55) For instance Marmorstein erred in almost all CE numbers he figured in *Zeitschrift der Deutsch-Morgenlaendischen Gesellschaft*, vol. 67, pp. 636 ff.

Where Year 1 DE started on RhS 69 CE and increased on RhS every year:

	AM II	AM III	SE I	SE II Jewish	SE III	CE Jan 1 to RhS	CE RhS to Dec 31	DE Jan 1 to RhS	DE RhS to Dec 31
1) AM I	1	2	3448	3449	3450	3760	3761	3829	3829
2) AM II		1	3447	3448	3449	3759	3760	3828	3828
3) AM III			3446	3447	3448	3758	3759	3827	3827
4) SE I				1	2	312	313	381	381
5) SE II (Jewish)					1	311	312	380	380
6) SE III						310	311	379	379
7) CE								69	68

Examples: Spring 1135 CE was in 4895 AM I (difference 3760)
Fall 1135 CE was in 4896 AM I (difference 3761)

****

Where Year 1 DE erroneously started on Ab 9, 69 CE and increased on Ab 9 every year[57]:

	AM II	AM III	SE I	SE II Jewish	SE III	CE Jan 1 to RhS	CE RhS to Dec 31	DE Jan 1 to Ab 9	DE Ab 9 to RhS	DE RhS to Dec 31
8) AM I	1	2	3448	3449	3450	3760	3761	3829	3828	3829
9) AM II		1	3447	3448	3449	3759	3760	3828	3827	3828
10) AM III			3446	3447	3448	3758	3759	3827	3826	3827
11) SE I				1	2	312	313	381	380	381
12) SE II (Jewish)					1	311	312	380	379	380
13) SE III						310	311	379	378	379
14) CE								69	68	68

Examples: Ab 1, 1096 CE was in 1027 DE (difference 69)
Elul 1, 1096 CE was in 1028 DE (difference 68)

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Where a BCE year is involved the following sums instead of differences have to be considered:

	BCE Jan 1 to RhS	BCE RhS to Dec 31
15) AM I	3761	3762
16) AM II	3760	3761
17) AM III	3759	3760
18) SE I	313	314
19) SE II (Jewish)	312	313
20) SE III	311	312

Examples: Summer 3243 AM III was in 516 BCE (3243+516=3759). If you find 177 SE and 134 BCE this can only refer to January 1 to fall in SE III, because the sum is 311.[54]

Chapter Eight

THE DIFFERENT ERAS MENTIONED IN THE TALMUD

In oldest times, the Jews counted their years from the exodus from Egypt, the erection of the Temple by King Solo-

mon, the beginning of the reign of kings, the Babylonian captivity, the Battle of Gaza (Seleucidan Era), the liberation by the Maccabees, the Destruction of the Second Temple etc., until they finally introduced the Era of Creation.[30]

SE, DE and AM are mentioned in the Talmud (*Ab. Zar.* 9a) where it is quoted in the name of R. Papa (died 375 CE) that one who does not know the DE year should ask the public notary for the tens and units of the present SE year. He then should add 20 and thus find the present DE year without the thousands and hundreds; they are known to everyone anyhow. So far the Talmud. Instead of adding 20 to the SE and finding the DE we can, naturally, add 80 to DE and find the SE. This refers to the number 380 on p. 36, l. 5 which also proves that the Talmud figures to the old Jewish SE II. The Talmud continues to say that SE plus 48 gives AM, also without thousands and hundreds. A difference of 48 (3448) can only indicate AM II and again SE II (p. 36, l. 2). AM III and SE III (p. 36, l. 3) are out of question because SE III was never used in the Jewish chronology. Neither can the difference of 48 refer to AM I and SE I (p. 36, l. 1) since AM I was introduced only much later.

We thus see that the counting to AM, although not yet generally used, was already known in Talmudic times. A comparison between R. Hanina's figures (see Ch. II) and those of R. Papa (see above) seems to indicate that between about 250 and 375 CE the change took place from AM III to AM II, the method also known to the Geonim and used in some countries long before it became general usage.

Saadyah Gaon defends AM II as used by the Easterners against AM I adopted by the Westerners. He puts 1238 SE II equal 4686 AM II (p. 19, l. 32).[56] That AM I was in early times already used by the Westerners is, among others, confirmed by some ancient gravestones found in Southern Italy

56) AbH, *Sefer ha-Ibbur*, p. 97. See also B.M. Levin, *Otzar ha-Geonim* vol. 5, section RhS (*Sefer* 3) p. 15 ff.

and described by Ascoli. *Inscrizioni di antichi sepolchri Giudaici del Napolitano.* Stone No. 25 (p. 70) and some others put 4582 AM equal 753 DE. The difference is 3829 pointing to AM I (p. 36, l. 1). It was thus erected in 821-22 CE. Another stone, No. 31 (p. 75), bears 4587 AM and 759 DE. The difference of only 3828 seems to point to AM II (p. 36, l. 2). However, this contradiction can be solved by assuming that the person in question died between the 9th of Ab and RhS. (No date is mentioned on the stone.) If he would have died only a few weeks earlier this would still have been in 758 DE and the difference would be 3829 as on the first stone. See p. 36, l. 8.[57] [58]

At this point we want to discuss the date on two ancient gravestones found near Zoar southeast of the Dead Sea telling us that two persons died on the same day, namely on Tuesday, Ellul 11, 435 DE, in a Shmittah year. This must have been on August 19, 4263 AM I, 503 CE, namely:

	AM I	CE	DE		Shmittah
1)	3830	70	1		1
2)	+433	+433	+433	: 7 = 61, remainder	6
3)	4263	503	434		7
4)	+1449	+1449		: 7 = 207, remainder	0
5)	5712	1952			7

Since the persons died in a Shmittah year it would have been, according to this table, in the year 434 DE, where-

57) It is, of course, not correct to increase the DE year by 1 on the 9th of Ab. Since year 1 of DE started on Ab 9th, 70 CE and ended on RhS 70 the increase should always take place on RhS and not on the 9th of Ab. But it is easy to understand that in the course of so many centuries it was forgotten that the year to the DE started on another day than the 9th of Ab. This mistake leads to the strange result that year 1 DE started on Ab 9th (instead of RhS) 69 CE, exactly 1 year before the destruction, and that on the day of the destruction already year 2 DE began.

58) See also Ascoli, *Inscrizioni inediti*, pp. 89 and 90 and Professor David Kaufmann in *Goettingische gelehrte Anzeigen*, Stueck 31, Aug. 3, 1881, p. 976. Ascoli does not know an explanation but Kaufmann suggested to take 69 CE as destruction year which explanation cannot be accepted.

as the tomb stones give us the year 435. But this contradiction is solved since the death was after Ab 9th on which day the number of the DE year was increased from 434 to 435 like in the case of an Italian stone which we discussed previously.

Since Ellul 11 was on a Tuesday, Ellul 29 was on a Saturday and RhS seems to have been on a Sunday. Indeed, the mean molad at the end of 4263 (Tishri 4264) was on a Sunday, 7 hours 802 halakim.

From these Zoar stones the conclusion, therefore, has been drawn that in those days the rule לא אד"ו ראש was not yet applied and that RhS could fall on Sunday which means that in that particular year Hoshana Rabba was on a Shabbath. But this does not necessarily follow.

It is also possible that at that time already Yom Kippur could not fall on a Friday or Sunday and Hoshana Rabba not on a Shabbath. The only difference is that at that time, the regulation of the calendar was not always done by a 30th day of Marcheshvan and Kislev as in our calendar but also by a 30th Ellul at the end of the year. (The Romans likewise have their leap day, the 29th of February at the end of the year which started on March 1. The Babylonians used a second Adar as well as a second Ellul for intercalation.)[59]

It is true, we read that we don't find a 30th Ellul since the time of Ezra[60] but the possibility of this day exists as it appears from the Mishnah *Sh'biith* X, 2, *Erubin* III, 7 and *RhS* I, 3 (see commentaries). In the year 503 CE there was probably a 30th day of Ellul on a Sunday so that the first day of Tishri was on a Monday, Yom Kippur on Wednesday and

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59) Rabbi M. Kasher in *Torah Shelemah,* vol. 13, p. 178, reads Ellul 12 instead of Ellul 11 which would put RhS on Shabbath. Since the mean molad at the end of Ellul (molad Tishri) was on Sunday, RhS cannot have been on Shabbath and Kasher's suggestion cannot be accepted.

60) (*RhS* 19b and *Beza* 6a) מימות עזרא ואילך לא מצינו אלול מעובר.

Hoshana Rabba on Sunday. (It does not matter whether RhS was celebrated on Ellul 30 and Tishri 1, or on Tishri 1 and 2. Before the destruction of the Temple in such a case RhS must have been celebrated on Ellul 30 and Tishri 1. See Tosafoth on *Men.* 100b who contradict Rashi. See also Solomon Gandz, Studies in the Hebrew Calendar in JQR, vol. XL, pp. 157 ff and 251 ff, especially pp. 256 ff, also Sherira Gaon in B. M. Levin, *Otzar ha-Geonim,* vol. IV, section Yom Tov, pp. 4 ff and especially pp. 6f.

ובזמן שהחדש היוצא חסר צריכין ב"ד לקדש את החדש הבא אבל בזמן שהוא מלא אין צריכין לקדש את החדש הבא שא"א להיות יותר מל' יום. ומקום הוועד אין עשין ראש השנה אלא יום א' אבל חוץ לתחום אותו מקום נוהגין שני ימים קדש . . . דילמא עברוהו לאלול.

Now-a-days everybody can figure whether or not in a certain year the leap days of Marcheshvan 30 and Kislev 30 are intercalated. It was different in those times and even later, as it appears from a letter, among others, in which Saadyah Gaon wrote in 921 CE that "he had heard, while in Aleppo, that Ben Meir was declaring both months defective. However, the exilarch and the heads of the academies and *alufim agreed* that these months are complete."[61] The exact wording of this letter is not known to me since according to the librarian of the Dropsie College Saadyah's original letter "has been missing" for some time!

This writer's claim that the years to the DE, although they should be increased by 1 on RhS, as a rule were increased already on Ab 9th (or 10th to the Karaite ritus)[57] is confirmed by a Karaite document which informs us that King Baldwin, the brother and successor of Godfrey (Gottfried) of Bouillion returned a Torah scroll to the Karaites from whom it was confiscated. The colophon reads as follows:[62]

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61) B. Halper, *Descriptive Catalogue of Genizah Fragments in Philadelphia.*

62) Published by Harkavy in *ha-Tzefirah,* 1875 p. 48 and by Jacob Mann, *The Jews in Egypt and Palestine under the Fatimid*

היום יום ששי צום עשרה באב ראש שנת תתרל"ז לחרבן שני אתי"ז לשטרות . . . ראש השנה לחרבן

The fast day of Ab 10th was thus on a Friday at the *beginning* of the year 1037 DE which was 1417 SE. This gives us the following figures:

After Ab 10:	DE	SE II	AM I	CE	
	1037	1417	4866	1106	
minus	1036	1036	1036	1036	
	1	381	3830	70	p.19,line 26

This shows us that the tradition on which this MS is based puts the beginning of year 1 DE in the summer of 70 CE. In other words, the counting is based on the knowledge of the actual historic date of the destruction.

There can be no doubt that the year 1036-37 DE and 1417 SE II corresponds with 4866 AM I because the *keviah* for this year was בש"ה so that the 10th of Ab according to the Rabbanite calendar actually was on a Friday (July 13). One year earlier and later this date fell on a Sunday and Wednesday, respectively.

The difference between the counting in this document and that of Maimonides is merely that year 1 DE in this document ended 1 year after the destruction (in Ab 71 CE) while according to Maimonides it ended 7 weeks after the destruction (RhS 70).[7]

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*

We found five different countings to the DE which we compare as follows:

				Karaites	Maimonides	AbH	Sefardim etc.	Italian Tombstones & Yemenites
			pp.	41	26	26 f.	24	38,25(n.34)
	CE	AM I		DE	DE	DE	DE	DE
On Ab 9	68	3828	Beginning of				1	
On Ab 9	69	3829	" "			1	2	1
On RhS	69	3830	" "			2		
On Ab 9	70	3830	" "	1	1		3	2
On RhS	70	3831	" "		2	3		
On Ab 9	71	3831	" "	2			4	3
On RhS	71	3832	" "		3	4		
On Ab 9	1953	5713	" "	1884			1886	1885
On RhS	1953	5714	" "		1885	1886		
On Ab 9	1954	5714	" "	1885			1887	1886

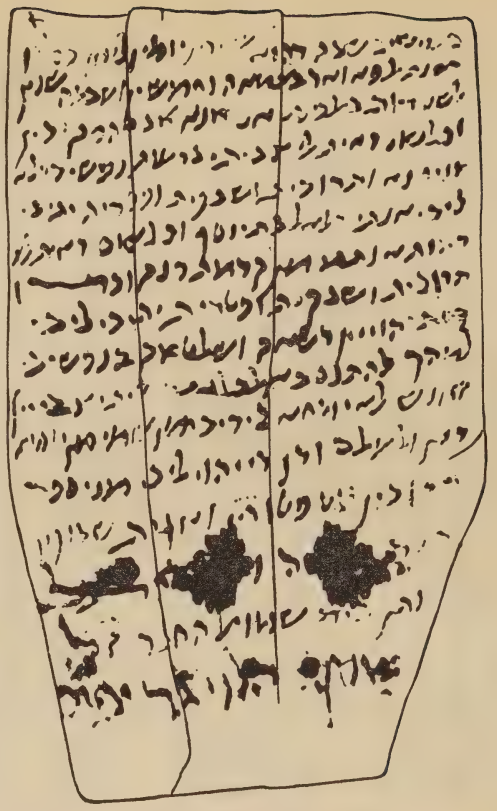
Kahle *loc. cit.* page 58 quotes another Karaite inscription: Friday, 15th of Siv (Iyar) the 25th day of the *Sephirah,* 778 DE. This is a mistake, because according to the Karaite understanding of ממחרת השבת (Lev. 23, 15) the first day of the *Sephirah* is always on a Sunday and the 25th, therefore, on a Wednesday. We have to read Wednesday (ד) instead of Friday (ו); then the above date refers to 4607 AM I (4606 AM II) in which year the *keviah* was זש"ג which puts the 15th of Iyar on a Thursday. But it is safe to assume that it could also have been on a Wednesday because in those times the month of Nissan might have been defective or the reason was because the Karaites did not exactly follow the ruling of the Rabbanite calendar. (According to our present-day calendar the 15th of Iyar can never fall on a Wednesday or Friday). The difference between DE and AM I of 3829 shows that this MS, like the one discussed above, is correctly based on the destruction in 70 CE (p. 36, l. 1).

We want at this point to bring the following additional proof for the fact that in the century and the country in which Maimonides lived SE II and AM I were used.

Ludwig Blau in "Die Juedische Ehescheidung und der Juedische Scheidebrief"[63] published eight *gittin* (bills of divorcement) written in Fostat, the southern suburb of Cairo between 1369 and 1457 SE (1057-58 and 1145-46 CE), each containing the date, the day of the week and the year according to SE of its writing. One of these *gittin,* the latest, for instance, was written on Kislev 20th, a Friday, 1457 SE.

Caliphs, vol. 1 p. 199/200. See also P. Kahle in *Massoreten des Westens* p. 10 (where he gives us 1105 instead of 1106) and in his *The Cairo Geniza,* p. 60.

63) *Jahresbericht der Landes-Rabbiner-Schule,* Budapest, 1910/11.



בשישי בשבת דהוא עשרין יומין לירח כסליו
דשנת אלפא וארבע מאה וחמשין ושבעה שנין

לשטרות באלפסטאט אנא אברהם בן יכין
וכל שום דאית לי צביתי ברעות נפשי דילא
אניסנא ותרוכית ושבקית ופטרית יתיכי

ליכי אנתי דלאל בת יוסף וכל שום דאית ליכי
דהות אנתתי מן קדמת דנא וכדו
תרוכית ושבקית ופטרית יתיכי ליכי

דיתיהויין רשאה ושלטאה בנפשיכי
למהך להתנסבא לכל גבר דיתיצביין
ואנש לא ימחא בידיכי מן שמי מן יומא

דנן ולעלם ודן די יהוי ליכי מני ספר
תרוכין וגט פטורין ואגרת שבוקין
כדת משה וישראל

נתן בי׳ שמואל החבר ז״ל

יוסף הלוי בר יפת

GET written in Fostat on December 7, 1145 CE, actual size.
Courtesy of the Library of the Jewish Theological Seminary of America

Now , 1457 SE was either
1457 SE I = 4905 AM I (p. 33, l. 13), or
1457 SE II = 4906 AM I (p. 33, l. 14), or
1457 SE III = 4907 AM I (p. 33, l. 15).

This *get,* as we said, was written on a *Friday,* Kislev 20th. Kislev 20th fell on a
Shabbath in 4905 AM I (Keviah חשי"ג)
Friday in 4906 AM I (Keviah הכי"ז)
Tuesday in 4907 AM I (Keviah בחי"ג)

It is the day of the week, Friday, which proves that the document was written in 4906 AM I. This was 1457 according to SE II and not to SE I.

I have checked all 8 *gittin* and found the same result in all of them.[64] If we realize that Maimonides settled in Fostat only about 20 years after the date of this *get,* that he lived there for the rest of his life, and that it was there where he wrote the *Mishneh Torah,* (finished in 1178) we have additional proofs that he and his countrymen figured to AM I and SE II which is the era year 1 of which started in autumn 312 BCE and at no other period.

Chapter Nine

THE EMBOLIC CYCLE

The Greek calendar, introduced by Meton in about 432 BCE is based on the discovery made by the Babylonians in the 8th century BCE that 228 (12 times 19) sun months are almost equal to 235 moon months so that he had to form cycles of 19 moon years, 12 of which have 12 and 7 of which have 13 months each, in order to adjust the solar calendar to

64) These results are also confirmed by the interesting calendars for 1153 CE ff. published by Mann (see note 62) vol. 2, p. 291.

the lunar calendar (12 times 19 plus 7 = 235).[65] The only practical principle for the distribution of the 7 leap years among the 12 others is by the following sequence:

3 periods of 3 years, total 9 years
1 period of 2 years, total 2 years
2 periods of 3 years, total 6 years
1 period of 2 years, total 2 years

7 periods total 19 years

A certain year in each period, for instance, the last, is a leap year.

This general rule was adopted by the Jews and has been transmitted to us by various sources in the mnemotechnic formula גבגגגבג or (3, 2, 3, 3, 3, 2, 3, or 3, 2, 9, 2, 3). This still leaves the possibility for the following 19 different systems. The Leap years are underlined.

1)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
2)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
3)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
4)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
5)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
6)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
7)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
9)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
11)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
12)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
13)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
14)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
15)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
16)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
17)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
18)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
19)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

65) 235 Jewish lunar months each of 29 d 12 h 44 m 3 1/3 s are 6939 d 16 h 33 m 3 1/3 s

19 Julian years of 365 1/4 d are 6939 d 18 h

19 Gregorian years of 365,2425 d are 6939 d 14 h 34 m 48 s

The present day scientists take for the average synodic lunar month 29 d 12 h 44 m 2.8 s. which x 235 is 6939 d 16 h 30 m 58 s.

In the present-day Jewish calendar the 3rd, 6th, 8th, 11th, 14th, 17th and 19th year in each cycle are leap years (line 17) a system which is based on AM I. In order for all Jews the world over to have the same calendar and celebrate their festivals on the same day, it is clear that those who counted to AM II and AM III had to intercalate to another system, namely to lines 18 and 19.[66] This problem was fully understood by R. Hai Gaon (abt. 940 — 1038), as it appears from his *responsum* transmitted by AbH (page 97-98) (See also Lewin,[56]). Hai Gaon there mentions the three cycles to AM I, AM II and AM III (lines 17 to 19) and also the general formula.

טוב לשום מעמד אחד שיבין את הדבר ונהגו ג׳ ב׳ ג׳ ג׳ ג׳ ב׳ ג׳ ואין בכל זאת ללמד זמן ולא סדר עולם.

Many others who wrote about this problem erred in its explanation. The non-Jewish Arab writer Al-Biruni (973-1048) in his *"Chronology of Ancient Nations"*[67] says that the Jews agree when the leap year takes place, that there is but one principle and that there is no difference of opinions. They only disagree as to the era *Adami.* Al-Biruni mentions the following three systems of intercalation:

בהזיגוח (the 2nd, 5th, 7th, 10th, 13th, 16th and 18th year are leap years)

אדוטבהז (the 1st, 4th, 6th, 9th, 12th, 15th and 17th year are leap years)

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66) "All three opinions (AM I — III) are true and correct, because they all intercalate at the same time. Only if the first counts 5000 AM, the second has 4999 and the third 4998. Now, AM I has to intercalate the years: 3, 6, 8, 11, 14, 17 and 19; AM II: 2, 5, 7, 10, 13, 16 and 18 and AM III: 1, 4, 6, 9, 12, 15 and 17. But to all of them the leap year is the same, because 3 AM I equals 2 AM II and 1 AM III. Most scholars selected AM I in order that there might be not even one day of the creation days of which they do not take care." (Avadyah on Maimonides, *Mishneh Torah, Hilkh. Kiddush ha-Hodesh,* VI, 8).

67) English translation by Sachau, London, 1879, page 64.

גבטבג (the cycle is divided in periods of 3, 2, 3, 3, 3, 2 and 3 years)

The first two systems, as we saw, are for AM II and AM III (lines 18 and 19) while the 3rd is just the general formula, even differing outwardly from the others. This Al-Biruni did not recognize, but took it for a third system about which he says: "This mode of arrangement is most extensively diffused among the Jews, they prefer it to others, because they attribute its invention to the Babylonians." On the other hand, Al-Biruni did not mention AM I at all, though he could have known it since it was mentioned by his contemporary Hai Gaon.

In *Pirke de Rabbi Eliezer* (end of chapter 8) this writer found in all printed editions (more than 20) and in various MSS, the rule 3, 2, 3, 3, 3, 3, 2 which can immediately be recognized as a mutilation, even as the reading in the *editio princeps* (Constantinople 1510), which is 3, 3, 2, 3, 3, 2. Finally this writer found in the Jewish Theological Seminary of America in the very old MS E.M.C. 375 fol. 11b the correct reading which he expected:

יש מהם משלש יש מהם משתים שלש שתים שלש שלש שלש שתים שלש מסורות גבטבג

3, 2, 9, 2, 3 or 3, 2, 3, 3, 3, 2, 3.

Isidore Loeb[68] in stating that in those regions where Al-Biruni lived, the order of the leap years was not yet established, misunderstood A. entirely. Loeb believes that in those times there were three groups of Jews who celebrated their Holy days sometimes on different dates, one month apart from one another. It is unnecessary to point out that this is out of the question. At all times, the Jews did everything possible to observe their festivals on the same day as their brethren all over the world.[69]

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68) *Revue* 1889, vol. XIX,, page 202.

69) Only once, in 922 CE was there a difference of two days between the Palestinian Jews and the other Jews concerning

This is also confirmed by AbH page 96, where he points out that those who count to AM I intercalate to our line 17 so that those who figure to AM II have necessarily to use line 18 "but this difference does not bring any doubt as to the intercalation or the fixing of the festivals."

Sidersky[70] claims that Meton's original system was 3, 5, 8, 11, 14, 16, 19 (line 1) and that this agrees with *Pirke de Rabbi Eliezer.* As to the latter, we have already shown that this reading corresponds with the correct *masorah,* which, however, cannot be found in any printed edition. As to Meton, this writer was not able to find Sidersky's source. Meton's intercalation was according to

Ideler — Redlich[71]	as per our line 12
Unger	as per our line 17
Mommsen	as per our line 6
Kallipos[72]	as per our line 5
Scaliger and Mueller	as per our line 7

For Schmidt, the years 2, 5, 8, 11, 14, 16 and 18 received the intercalary month while Opert[73] states that no ancient passage transferred to us the order of Meton and that many erroneous hypotheses have been advanced on this subject.

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the fight between Ben Meir and Saadyah Gaon in this question. See Dubnow, German edition, vol. III, page 491, Ch. Bornstein in his מחלקת רב סעדיה גאון ובן מאיר, and in Jubilee volume for Sokolow, both Warsaw 1904.

E. Schwartz in *Christl. und Juedische Ostertafeln,* page 167, not able, as he says, to read Maimonides' *"Neuhebraeisch,"* but still daring to judge about Jewish literary questions goes as far as to say: *"Die Judenschaften legten keinen Wert darauf, das Pascha ueberall am gleichen Tage zu feiern"!*

70) *Revue,* 1909, vol. 57, page 98.

71) See Ginzel, *Handbuch der mathem. und techn. Chronologie,* vol. 2, p. 406 and Clinton, *Fasti Hellenici,* Oxford 1834, vol. 2, page 408 and vol. 3, p. 352.

72) Unger, *Handbuch der Altertumswissenschaften,* Abt. 1, 1892, 2. Aufl.. p. 744.

73) *Revue des Etudes Greques,* 1909, vol. 16, page 10.

Chapter Ten

THE TEKUFOTH — THE DAY OF THE EXODUS FROM EGYPT AND THE REVELATION

ADDITIONAL DISCUSSIONS

The tekufoth are still based on the ancient Julian calendar in which the years comprise 365¼ days or 52 weeks and 1¼ days. The four tekufoth in the year (*Nissan, Tamuz, Tishri* and *Tebeth*) are thus removed from one another by 91 days and 7½ hours and were originally intended to represent the moments when the sun crosses the equator (equinox[74] about March 21 and September 21) and when she reaches the tropics (about June 21 and December 21). Since the Julian calendar is not as exact as our present-day Gregorian calendar the tekufoth have moved within more than 2000 years to wrong dates (January 8, April 8, July 8 and October 8) which are about 18 days after the astronomical event which they are supposed to represent.

Jewish chronology puts the first tekufah in Nissan of year 1 AM I[75] on a Wednesday 0 hours (i.e., Tuesday 6 p.m. Jerusalem time to our way of counting the hours). As we showed at the beginning of this chapter the tekufah moves in one year by 1 day and 6 hours or within 28 years a total of 35 days or 5 weeks so that the tekufah falls on the same day of the week and the same moment again after 28 years (Mahsor gadol).

At this point we want to put before the reader the following table which shows a small number of tekufoth to the three different systems of counting the AM (AM I to III). We shall refer to this table later.

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74) באחד בתקופת ניסן ובאחד בתקופת תשרי היום והלילה שוין (Yerushalmi, Ber. I, 1).

75) This is a fictional date, six months before creation, and

	AM I	AM II	AM III		TEKUFATH NISSAN Jewish Time	Our Time
1)	1	0	-1		Wednesday 0 h	Tuesday 6 p.m.
2) plus 87 x 28	2436	2436	2436		-	-
3)	2437	2436	2435		Wednesday 0 h	Tuesday 6 p.m.
				plus 12x1¼ days		
4) plus	12	12	12	= 2 weeks ...	1 day	1 day
5)	2449	2448	2447		Thursday 0 h	Wednesday 6 p.m.
6) plus	1	1	1		1 day 6 h	1 day 6 h
7)	2450	2449	2448		Friday 6 h	Thursday 12 p.m.
8) plus 116 x 28	3248				-	-
9)	5698				Friday 6 h	Thursday 12 p.m.
				plus 15x1¼ days		
10) plus	15			= 2 weeks ...	4 days 18 h	4 days 18 h
11)	5713				Wednesday 0 h	Tuesday 6 p.m.[76]

The writer wants to draw to the readers' attention a very interesting instance where the tekufah plays a part in determining chronological data.

In the Talmud, *Shabbath* 86a we find a discussion between R. Jose and the Rabbis. Both, R. Jose as well as the rabbis, agree that the Exodus from Egypt took place on a Thursday and that the Torah was given on Mount Sinai on a Sabbath.[77] Their only difference is whether Iyar had 29 or 30 days so that this event according to Rabbi Jose was on Sivan the 7th and according to the rabbis on Sivan the 6th. Both, therefore, are in accord that the Torah was given on the 51st day of the Omer and not on the 50th day of the Omer, which means that according to both parties the revelation did not take place, as one should believe, on that day on which we celebrate the Shabuoth festival, but one day later (on our second day of Shabuoth). The Talmud on this occasion also quotes the Seder Olam as saying that the exodus took place on a Friday which would put Shabuoth correctly on the 50th day of the Omer.

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according to those who hold that the creation was in Nissan it was at the time of creation.

76) This table was brought down to the year 5713 in order to show, incidentally, that in the spring of that year the tekufah reaches its original point (Tuesday 6 p. m.) which means that on Wednesday, April 8, 1953 *Kiddush ha-Hammah* took place. (See Talmud b. *Berachoth* fol. 59b, Maimonides, *Mishne Torah, Hilch. Berachoth* X, 18. *Shulchan Aruch, Orach Chayim,* 29b etc.).

77) See also *Mechilta* to Ex. 14, 1 and 16, 1 (ed. Lauterbach, vol. I, p. 189 and vol. II, p. 99).

Since the above mentioned R. Jose (according to an information kindly given to me by Dr. Berthold Jeiteles) was none other than R. Jose b. Halafta, the editor of the *Seder Olam*, we have before us a contradiction in itself.

Now, when checking the quotation from the *Seder Olam* as given by the Talmud with our manuscripts and printed editions of the *Seder Olam* we find different readings. According to the edition of Prof. Alexander Marx, for instance, we read that the exodus took place on Thursday and that the Torah was given on Sivan 6, a Friday,[78] while most editions tell us that the exodus was on a Friday and the giving of the Torah on a Saturday.[79] As a matter of fact, the question whether we celebrate the first day of Shabuoth on the day on which the Ten Commandments were given or one day earlier plays an important part in the rabbinical literature.[80]

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78) See Marx' note no. 7.

79) For instance the edition Vilna, 1845 (with *Anaf Joseph*), Vilna, 1897 (with commentary by Ratner) and Warsaw 1904 (with commentaries by Jacob Emden and Gaon of Vilna). The latter, without contradiction, stated that the *Seder Olam* places the exodus on a Friday and the revelation on a Shabbath. *Anaf Joseph*, however, holds that the exodus must have taken place on a Thursday, because then Shabbath fell on the 10th of Nissan, the day of the taking of the Pesach lamb, and according to his belief, it was this event which gave the day the name of the Great Sabbath.

For the use of the term *Great Sabbath*, Σάββατον Μέγα in the early Christian church see J. B. Lightfoot, *The Apostolic Fathers*, London 1889, Second part, vol. I, p. 689 (also index) and Karl Wieseler, *Die Christenverfolgungen der Caesaren*, p. 49 ff. According to his opinion the Jews in early days called a Saturday a Great Shabbath if it coincided with a holyday, while in the Church this expression referred to that Saturday on which Jesus rested in his grave which was between the Friday of crucifixion and the Sunday of resurrection. See also *New Testament*, John 19, 31 and Strack & Billerbeck, *Kommentar zum Neuen Testament aus Talmud und Midrasch*, vol. II, p. 581.

80) For instance Heilprin, *Seder ha-Doroth* and *Magen Abraham* on *Shulchan Aruch, Orach Chayim* § 494 who goes that far

We believe that we do not go too far by suggesting the following solution for all this seeming contradiction.

It must have been an old tradition that the day on which God showed the new moon to Moses and Aharon (II. M. Chapter 12) — two weeks before the exodus — was not only Rosh Hodesh Nissan but at the same time the day of the tekufah, and according to the SO this was in the year 2448 AM (III). From the above table it appears that in the year 2448 AM III the tekufah of Nissan was on a Friday, and therefore, Rosh Hodesh and also the 15th day of the month, the day of the exodus, must have been on a Friday too.[81] This

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as to see a hint for the celebration of the second day of the festivals in the fact that the Torah was given on the second day of Shabuoth. A list of passages where the day of the Exodus is mentioned will be found by Ratner page 12 and 14. Most of the authorities put the exodus on Thursday and the revelation on Friday, for instance *Mechilta, PdR,* § 9, *Pesikta Rabbati, Pesikta Rav Kahana,* Saadyah etc.

81) In *Pesikta Rabbati* (written about 845 CE), § 15 (ed. Friedmann, Vilna, 1880, p. 78a) we read as follows:

רבי שמואל בר נחמן אמר שנה שיצאו ישראל ממצרים היו חדש השנה וחדש התקופה שוין: שנה שיצאו ישראל ממצרים היתה התקופה בלילה בתחלת הלילה ומולד לבנה היה ביום ד' בחצות היום והתחילו חודש הלבנה וחדש התקופה בלילה (בליל ה'):

"In the year in which the Israelites left Egypt was the hodesh of the year (i.e., the first of the moon month) and the hodesh of the tekufah (the equinox) at the same time.

In the year in which the Israelites left Egypt was the tekufah at the beginning of the night to Thursday and the molad of the moon was on Wednesday at (after?) noon, and the beginning of the moon month and the beginning of the tekufah in the same night, namely the night to Thursday." This statement, however, cannot be brought in concordance with our present-day constant calendar. According to its rules we would find the following data:

In 2448 AM I, 2447 AM II, 2446 AM III the molad Nissan was on Sunday 19 h 1027 chal. (Sunday 1 h 57 m 3 1/3 sec. p.m. our time) while the Tekufah was on Tuesday 18 h (Tuesday noon).

puts the first day of the Omer and also the 50th day, Shabuoth, on Shabbath, the day of the revelation.

In 2449 AM I, 2448 AM II, 2447 AM III the molad was Saturday 17 h 537 chal. (Saturday 11 h 29 m 46 2/3 sec. a.m. our time) and the Tekufah Thursday 0 h (Wednesday 6 p.m.).

In 2450 AM I, 2449 AM II, 2448 AM III the molad was Thursday 2 h 332 chal. (Wednesday 8 h 18 m 26 2/3 sec. p.m. our time) and the Tekufah Friday 6 h (Thursday 12 p.m.).

The following method would bring about a somewhat more satisfactory result.

In an earlier phase of the Jewish calendar the period of lunation was taken to consist of 29 days 12 hours and 40 min. (and not 29 days 12 hours 44 3 1/3 sec.). Its epoch, i.e., the molad in the year of the creation was not the molad given in our note 15 but simply Wednesday 0 h (Tuesday 6 p.m. our time). See PdR § VII and Solomon Gandz's learned paper on *The Problem of the Molad* in Proceedings, vol. XX 1951, p. 253 ff. Assuming 7 leap months within 19 years the mean molad in 2449 AM I, 2448 AM II, 2447 AM III was on Wednesday 12 h 40 m (Wednesday 6 h 40 m a.m. our time). This means that the mean molad was *before* noon and not *at* noon and that Rosh Hodesh would have been on Wednesday and not on Thursday.

Why PdR gives the length of the month with 29 d 12 h 40 m instead of 29 d 12 h 44 m 3 1/3 s, this writer, incidentally, cannot explain. The latter figure is correct and was already known long before PdR were written. It was already known to Hipparchus (c. 150 BCE) as quoted by Ptolemy (c. 150 CE) in his *Almagest* (IV, 2) giving the length of the month to be 29 d 31' 50" 8''' 20'''' = 29 d 12 h 44 m 3 1/3 s.

In *Pesikta de Rav Kahana* (about 7th century CE) in *Piska* 5 we also read that in the year of the exodus the tekufah and the moon month started on the same day.

All the dates as figured above, to be sure, apply only if we assume that they are calculated by later generations since they are based on the Julian calendar and the mean length of the month. In reality the tekufah was on a different day. Just as well as the tekufah is at the present time about 18 days earlier than indicated in our calendars it would have been in the century of the exodus about 5 days later than we would figure. On the other hand, the actual molad could easily have been earlier or later than figured

Now, after the year 250 CE, as we pointed out in Ch. VIII, the counting was changed from AM III to AM II, and sooner or later the system AM III was entirely forgotten.

At that time scholars checked the day of the tekufah of Nissan 2448, but erroneously figured for the year 2448 AM II instead of 2448 AM III. This mistake caused their belief that tekufah and exodus were on a Thursday instead of a Friday (lines 5 and 7). They, therefore, changed all manuscripts

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above. Also the chronological discrepancies — see note 1 — should be considered.

If the tradition that tekufah and molad in the month of the exodus were on the same day goes back to these early times, in other words, if it is based on observation we would have to figure their date by entirely different operations. Such an inquiry, however, would go beyond the limits of this study. It would be a worthwhile task for an astronomer to figure when equinox and conjunction were on the same day. The result might show in which year the exodus actually took place.

In this connection it should be mentioned that according to the *Seder Olam Rabba* § 11 also in the year of the entry into Canaan Rosh Hodesh Nissan and the Tekufah both fell on the same day. However, these two traditions contradict one another. If in the year of the exodus 2450 AM I, Nissan 1 was on March 21 (Julian), so to speak, it was at the time of the entry, 2490 AM I, about 7 days later, because 40 sun years comprise 14,610 days (40 x 365 1/4), while the length of 495 moon months is 14,617 days, 15 hours 495 halakim, or according to PdR 14,616 days 6 hours. If we assume that the entry year was one year later (p. 11, l. 19) this would not solve the problem either because this would give us from exodus to entry 14,975 days according to the sun calendar and 507 months with only 14,972 days, 291 hal. according to the moon calendar.

(Incidentally, if Rosh Hodesh Nissan in the year of the entry was on the day of the tekufah the next tekufah must have been on Tamus 3rd. This is correctly stated by the *Seder Olam Rabba* according to which this was the day the sun and the moon stood still — Josh. 10, 12-13. This passage has been misunderstood by Jacob Emden, but correctly commented by the Gaon of Vilna.)

of the *Seder Olam* which they could reach accordingly. In some instances they changed the day of the exodus from Friday to Thursday and the day of the revelation from Shabbath to Friday but in some copies they only changed the day of the exodus while other manuscripts reached posterity unchanged. But they might have had a second important reason for the change of the *Seder Olam.*

This was the time when the new constant calendar was introduced and the old one, based upon testimony of witnesses, was abolished. Now, one of the basic rules of the new calendar was לא בד"ו פסח, that the first day of Pesach cannot fall on a Monday, Wednesday or *Friday.* Those scholars who introduced the new calendar must have feared that their opponents would fight against the change with the reason that the very first Pesach, the day of the exodus itself also was on a Friday.

We have thus shown why and how the contradiction in the Talmud and in the copies of the *Seder Olam* came about.

The result of our investigation is that according to Jewish chronology the exodus was on a Friday and not on a Thursday as generally believed, and that the revelation on Mount Sinai took place on a Sabbath, the 50th day of the Omer. It is uncertain and also quite unimportant whether this was on the 6th or the 5th of Sivan; in other words, it does not matter whether in the year of the exodus the month of Iyar had 29 or 30 days. What matters is that we celebrate the first day of the Shabuoth festival on the fiftieth day of the Omer which is the anniversary of the giving of the law in so far as this event also took place on the 50th day of the Omer.

All other opinions and discussions about this question are merely the result of the fact that in talmudic times the original counting of the year as used by the *Seder Olam* were not understood any more.

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We are still using in our Hebrew documents an old phrase reminding us of the different countings used in ancient times. In every *Kethubah* (marriage deed), *get* (document of divorce) etc., we read:

שנת כך וכך לבריאת עולם למנין שאנו מונין כאן

"In the year so and so to the creation of the world to the number which we are counting here in the city of . . ." According to *Pische Teshubah* on *Eben ha-Ezer* § 127, 10 this passage refers to the difference between AM I and AM II.[82] However, this commentary does not go far enough. This clause refers also to the difference between other systems, since it appears also in *gittin* where the counting is done only to the SE, for instance in the ten *gittin* described by Ludwig Blau.[63] In eight of them written before 1128 CE, we find the clause למניינא דרגילינא ביה לשטרות. Only the two youngest *Fostat gittin* (1145 and 1146 CE) omit this passage and have "לשטרות" instead. The Rabbinate in Fostat must, therefore, have introduced this change between 1128 and 1145 CE, probably because at that time the Jews in Fostat became accustomed to counting to AM. But Maimonides, who also lived in Fostat, in his code which he finished there only three deciannia later, in 1178, introduced the clause again as follows:[83]

בשנת כך וכך ליצירה או לשטרות למניינא דרגילנא למימני בה הכא

In the Yemenite *get* published by Jacob Saphir[51] the clause reads as follows:

שנת תרין אלפין ומאה ותלתין ותלתא למנינא דאנן מנין כאן

The author reports that the Yemenites only count to SE.

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Isidore Loeb[68] who stated correctly that SE started in 312 BCE, believes that Jewish chronology changed the destruction year from 70 to 68 CE "avec son goût pour des nombres

82) Professor Boaz Cohen was good enough to draw my attention to this passage.

83) *Mishneh Torah, Hilch. Gerushin* Cap. IV, 12.

ronds" only in order to bring the interval from 382 down 380! This, however, is completely wrong: From 312 BCE to 70 CE is not 382, but only 381 and to 68 is not 380, but only 379 years. Since there is no year 0 counted, from any date in 1 BCE to the same date in 1 CE is only 1 and not 2 years. We thus have to figure the years BCE plus those of CE minus 1.[23]

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In an earlier discussion of Maimonides' chronology in the JQR[35] I stated that for Maimonides the SE started in autumn 312 BCE, and the Temple was destroyed in 70 CE. Professor Zeitlin, the editor of JQR in a *"Note on the Chronology of the Destruction of the Second Temple,"* published in the same issue, contradicted me and tried to prove that Maimonides in putting the destruction in 69 CE instead of 70 CE erred by one year. An extract from his note reads as follows:

A) To Maimonides 1487 SE = 4936 AM (p. 26, l. 8)
Therefore, 1 SE = 3449 AM = 311 BCE
(a claim already repudiated in Ch. VII).

B) Since for Maimonides SE thus started one year *earlier* than 312 BCE, namely in 311 BCE, to him also the destruction took place 1 year earlier than 70, namely in 69 CE.

However, Professor Zeitlin is wrong because of two mistakes he made:

A)
1487 SE = 4936 AM
minus 1486 1486
1 SE = 3450 AM =(312)-311 BCE (p.19,line 19)
and not 1 SE = 3449 AM

B) Prof. Zeitlin figures that 311 BCE is *earlier* than 312 and overlooks the fact that actually 312 BCE was earlier and 311 later!!

For additional proof that Maimonides figures to SE II, which means that to him the SE started in 312 BCE see the story of the Fostat *gittin* (p. 42ff and also p. 26, l. 3).

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Solomon Juda Loeb Rapoport (1790 to 1867) in *"Jahrbuch fur Israeliten,"* Vienna, 5603, pp. 247-254, points out that the SE which started in spring, 311 BCE, was invented by the Jews as a continuation of the era of the exodus from Egypt, because that event took place in the spring exactly 1000 years before the beginning of the SE (p. 19, l. 9 and 19), so that both eras had the same units.[84] This theory, however, cannot be upheld, since the Jews in those days hardly figured to the exodus any more, but rather to eras referring to an event closer to them, as the destruction of the First or even the construction of the Second Temple. Also the fact that the Jews counted from *fall* and not from spring is against Rapoport's theory.

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Rapoport, furthermore, claims that some Jewish writers figure to SE II and some to SE III, a claim which he tries to prove as follows:[85] A grandson of Maimonides states that Maimonides died in 4965, making this year equal to 1516 SE (p. 33, l. 17). On the other hand, Juda Al-Harizi in an eulogy in memory of Maimonides and of R. Joseph ibn Shashon,[86] who died at the same time, expresses the year in question by the following chronograms (*pratim*):[87] נהי = 65 (4965 AM)

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84) See *Ab. Zar.* 10a and Rashi *ibid.*, who says:

From Exodus from Egypt to erection of First Temple	480 years
Period of First Temple	410 years
Babylonian Captivity	70 years
Period of Second Temple	420 years
	1380 years
From beginning of SE when the Greeks spread their rule over the whole world after the Battle of Gaza until destruction of Second Temple	380 years
From exodus from Egypt until beginning of SE	1000 years

85) *Erech Millin*, page 83.

86) *Tachkemoni*, Vienna, 1854, page 64b, Warsaw 1899, page 412.

87) We usually call the four digits of the number of the

and זעם = 117 = 17 (1517 SE). Since Maimonides' grandson and Al-Harizi agreed to the AM (4965) and disagreed to the SE by 1 (1516 and 1517), Rapoport infers that Maimonides' descendent figured according to SE II and Al-Harizi to SE III. However, this conclusion is wrong: Between Maimonides' grandson's figures, 4965 and 1516, there is a difference of 3449 which shows that he figured according to AM I and SE II, as his grandfather did, (p. 36, l. 1) while the difference between Al-Harizi's figures (4965 and 1517) is only 3448. Instead of decreasing, the difference would have to increase to 3450 (same line) in order to refer to AM I and SE III.

Since the figuring according to AM II and AM III (line 2 and 3) was abolished for a long time only two solutions seem possible. Either, as this writer believes, זעם is not a *prat* at all (after all, 117 is neither 17 nor 517), or, which seems less likely, Al-Harizi figured to the ancient SE I (line 1).

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year (5714) the *prat gadol* and the three digits (714) the *prat katon*. This is wrong. 5714 is the *klal*, 714 is the *prat gadol* and the last two digits (14) are the *prat katon*, as it appears from *Ab. Zar.* 9a, *Teshuboth Rashi*, ed. Elfenbein, *responsum* 377, *Choshen Mishpat* § 43, *Tur, Beth Joseph, Shulchan Aruch*

(לא כתב חמשת אלפים כשר ואפי׳ השמיט גם המאות ולא כתב אלא הפרט הקטן כשר:)

and Remo, *ibid.* See also Colophon by Alphonso de Zamara in *Sefarad*, 1950 p. 268; Eduard Baneth ז"ל in *Monatsschrift* vol. 71, 1927, p. 443; Gulak, *Otzar ha-Shtaroth, shtar* no. 3, 4, 180 etc.

The misuse of לפ"ק seems to be more common among European than Oriental Jews as it appears from collections of inscriptions of tomb stones. See Ernest Mainz, *Mourning Customs of Algerian Jews, Proceedings*, 1952, vol. XXI, p. 631, Isaac Bloch, *Inscriptions Tumulaires des anciens Cimetières d'Alger ;* Michael Molho בבית העלמין של שאלניקי vol. 1, to 3.

The term לפ"ק is not found in Mainz' collection while it appears in only eight percent of the inscriptions copied by Bloch and Molho.

In a Hebrew magazine[88] Zlotnik tried to prove that the destruction actually took place two years earlier than general history assumes, namely in 68 CE (3828) AM. Of this discrepancy of two years, he explains one by the claim that from its origin the Roman calendar was 1/4 day too short in every year, each year comprising only 365 instead of 365 1/4 days. The destruction took place in the 821st (823rd?) year of the City of Rome (*ab urbe condita*), so that within these ca. 820 years, New Year had moved back by 205 (820 : 4) days and that, thus, the so-called 821st year was actually the 820th. It is not necessary to go into further details. The following fact refutes Zl's theory.

The Egyptians had years of 365 days (Sirius year), not the Romans. As far as we know, the Romans originally had years of 304 days (10 months from March to December, *decem* = ten) consisting of 38 *nundinis* of 8 days each.[89] Later Numa, adding January and February, introduced lunar years of 355 days with leap months. Since the priests did not minister the intercalation correctly, they caused a lot of confusion, which Julius Ceasar corrected by giving the year 708 about 445 days. This *annus confusionis* which ran from October 13th, 47 to December 31st, 46 BCE, finally brought order out of confusion.[90] This order existed at the time of the destruction and remained until the present day.[91]

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88) *Sinai*, vol. 21, 5707 (1947).

89) Ideler, (note 43), vol. II, page 15 ff. and Unger (above note 72), page 784.

90) The only exception was a confusion in the intercalation of leap years soon after 46 BCE. This confusion was corrected by Augustus by omitting leap years between 8 BCE and 8 CE.

91) The difference between the Julian and the Gregorian calendar which we use today is that the Julian calendar has, and the Gregorian calendar does not have a leap year at the turn of a century as in 1700, 1800 and 1900. However, years like 1600, 2000 *etc.*, are in both calendars designated as leap years. The difference

If, by the way, Zl's "proof" were correct, i.e., if he had proved that the destruction took place in 68, he would still not have proved that this was 2 years earlier than we believe. All he would have proved is that the present year 1954 (5714-15) should be called 1952 (5712-13) because from the destruction until August of our present year, 1954, exactly 1884 years have elapsed. There can be no doubt about this, since, as we said, there has been no confusion in the Julian calendar for almost 2000 years.

Also if ZI. were right, (66)-67 would have been a Shnittah year and also (1949)-1950. Actually (68)-69 and (1951)-1952 were Shmittah years (p. 75, l. 16 and 25).

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In another Hebrew magazine[92] the same writer, Mr. Zlotnik, discusses the beginning of the SE. He states that according to *Seder Tanaim v'Amoraim*[93] R. Aha b're de Rahva died in 730 SE on a day of an eclipse of the sun. The stars could be seen during daytime. The only eclipse visible in the Near East during the above and its neighbouring years according to Th. v. Oppolzer *"Canon der Finsternisse"* took place on July 19,[94] 418 CE, which was 4178 AM I (Difference between these figures 3760, see p. 36, l. 1) July 19, 418 CE was on Tammuz 29.[95] Graetz and S. Jawitz erred by putting R. Aha's death in 419. So far Zlotnik is correct.

His further conclusions are that 1 SE was equal to 3449 AM and that our present-day AM are based on the

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between both styles is at present 13 days. January 1 in the Julian calendar is January 14 in the Gregorian calendar.

92) *Tarbitz*, year 17, *Sefer* 2, page 121.

93) See also *Mahzor Vitry* page 483.

94) Confirmed for me by the U. S. Naval Observatory in Washington.

95) An eclipse can only be seen shortly before, on or shortly after the day of the New Moon in the Jewish calendar. (Rosh Hodesh).

molad of the day of Adam's birth, (AM II) and not on the molad 12 months earlier (AM I). Or, speaking in the terms of this book: The difference between 4178 AM and 730 SE is 3448, which according to p. 36, l. 2 shows that 4178, as well as our present-day counting, is to AM II and not according to AM I as believed until now.

This theory, however, cannot be accepted because it results in the following misleading equation:

Death of R. Aha and eclipse (417)-418 CE+312=730 SE II+3448=4178 AM
Figure as follows: -1 -1 +1
and find the right equation: (417)-418 CE+311=729 SE II+3449=4178 AM

The first equation is misleading because it is in contradiction to p. 33, l. 12, all examples given on p. 19, l. 19 to 49 and countless other passages in the literature from which it appears that the differences are 311 and 3449 and not 312 and 3448. Also, the eight *gittin* from Fostat (p. 42ff) are a conclusive proof for our claim. An eightfold cord is not quickly broken! In the *one* instance of the year of the death of R. Aha the differences are given with 312 and 3448. We cannot possibly draw a conclusion from this one case and ignore so many proofs. On the contrary, from the great majority of cases we have to conclude that this *one* case is not conclusive.

This writer offers a very simple solution: In this case the counting is not done by SE II as usually used by the Jews and also not by SE III but that ancient counting, SE I, according to which year 1 SE started in spring or summer 312 BCE crept in. This is that era which is employed in I Macc. and which we have already mentioned in Ch. VII. The answer to the problem is thus found on p. 33, l. 12, which shows that the summer of 418 CE coincided with the summer of 730 SE I.

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Another case where SE I is used is the colophon discussed by A. Neubauer in *Studia Biblica et Ecclesiastica,* vol. III, Oxford 1891 p. 24; there 853 DE equals 1234 SE "as we

count in Aleppo" and 4682 AM. The differences of 381 and 3448 point to SE I (p. 36, l. 4) and SE I and AM I (p. 36, l. 1).

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A. A. Akavia in *Sidre Zemanim lefi ha-Mesoreth* (Tel Aviv, 1943) tries to explain the discrepancy of 2 years between the traditional chronology of the SO and the actual historical data as follows: The SO is based on the verse "And Adam lived one hundred and thirty years and begat a son . . . and called his name Seth." (Gen. V, 3). This passage, according to Ak., is understood by the SO that Seth was born in Adam's 130th year (when Adam was 129 years old), while he, Akaviah, wants to interpret it so that Seth was born *after* Adam had lived 130 years, in other words when he was 130 years old in his 131st year. Akavia calls this year 130 ממולד אדם or לאדם. This suggestion, however, cannot be accepted because the SO itself already puts Seth's birth in Adam's 131st year (130 AM III, 131 AM II or 132 AM I) and not in his 130th as claimed by Ak. According to the SO (p. 11, l. 2 & p. 21). Adam was born at the beginning (Tishri 1) of year 0 AM III ,לאדם (p. 19)

Adam's 1st year ended at the beginning (Tishri 1) of year 1 AM III

His 130th year ended at the beginning (Tishri 1) of year 130 AM III

Seth, according to the SO was born in 130 AM III, in other words, in that year which followed the day on which Adam completed his 130th year, or in his 131st year. This tradition seems also to be confirmed by the Talmud which says that Adam separated himself from his wife for 130 years.[96]

After this erroneous explanation of 1 year Ak. explains the second year of the difference of 2 years by suggesting that

96) See *Erubin* 18b and other passages listed in Kasher, *Torah Sh'lemah*, vol. I, p. 351f.

we have before us a mistake in the historical chronology which nobody can explain, שאין איש יודע לבאר.

We, however, maintain that ch. IV of this study contains the full explanation and eliminates the discrepancy in question.

Chapter Eleven

MAIMONIDES' CHRONOLOGY IN DETAIL

We shall now, once more, consider the chronology of Maimonides and show that in one of his *responsa* errors are to be found which he corrected later, when writing his *Mishneh Torah.* Other mistakes we encounter in this code are, as it seems, to be attributed to early scribes and not to the נשר הגדול.

MISHNEH TORAH, Hilch. Shmittah v'Yobel, Ch. X, hal. 2 to 6	TESHUBAH No. 234[97]
ב	
ומאימתי התחילו למנות מאחר ארבע עשרה שנה משנכנסו לארץ...	התחילו ישראל למנות שמיטים ויובלות משנת חמש עשרה אחר שנכנסו לארץ
ושבע שנים עשו בכבוש הארץ ושבע שנים בחילוק נמצאת אומר בשנת שלש וחמש מאות ואלפים ליצירה מראש השנה מאחר מולד אדם הראשון שהיא שנה שניה ליצירה התחילו למנות ועשו שנת עשר וחמש מאות ליצירה שהיא שנת אחת ועשרים משנכנסו לארץ שמטה. ומנו שבע שמטות וקדשו שנת החמשים שהיא שנת ארבע וששים משנכנסו לארץ:	לפי שבע שכבשו
ג	
שבעה עשר יובלים מנו ישראל משנכנסו לארץ ועד שיצאו[100].	ושבע שחלקו לא מנו....

97) *T'shuboth ha-Rambam* by Alfred Freimann, Jerusalem 1934, No. 234, page 221 (copied in Shulsinger's *Maimonides,* vol. III, No. 218).

והיו מונין והולכין עד שחרב הבית בראשנה

ושנה שיצאו בה שחרב הבית בראשונה

ושנה שחרב בה שתחלתה מתשרי שאחר החרבן

כי באב חרב היא היתה

מוצאי שביעית היתה ושנת שש ושלשים ביובל היתה

מוצאי שביעית[98] והיא שנת שש ושלשים ביובל של שבעה עשר לפי שה־חשבון מוציא שמנו בארץ ששה עשר יובלות שלמות וביובל של שבעה עשר חרב ואם תוסיף על המנין שמנו שבע שנים שכבשו ושבע שחלקו נמצא שעשו שבעה עשר יובלים גמורים ארבע מאות וארבעים משעת כניסתן לארץ עד בנין הבית

שארבע מאות שנה ועשר שנים עמד בית ראשון

וארבע מאות ועשר שעמד בית ראשון

כיון שחרב הבית בטל מנין זה משבטלה נשארה הארץ חרבה שבעים שנה ונבנה בית שני. וארבע מאות ועשרים שנה עמד

וכיון שחרב הבית וגלו בטל המנין

ובשנה השביעית מבניינו עלה עזרא[99] והיא הביאה השנייה. ומשנה זו התחילו למנות מניין אחר.

וכשעלה עזרא ע"ה בשנייה התחילו למנות משנה שעלה וקידש בה את הארץ קדושה שנייה והיא היתה השנה השביעית מבנין בית שני[99] וממנה התחילו למנות שמיטין ויובלות שמנין ראשון בטל משבטלה הארץ

ועשו שנת י"ג לבנין בית שני שמטה. ומנו שבע שמטות וקדשו החמשים. אעפ"י שלא היתה שם ואף על פי שלא

98) The destruction itself, therefore, according to the *responsum*, was in a sabbatical year, namely in the 35th of the Yobel period.

99) Ezra 7, 8.

יובל בבית שני מונין היו אותו כדי לקדש שמיטות:

היה יובל בימי עזרא ע"ה מנו יובלות כדי לקדש שמיטין שאין שנת היובל עולה למניין שני שבוע אליבא דחכמים[101] וכן הלכה....

ד

נמצאת למד שהשנה שחרב בה הבית באחרונה

ולפי חשבון זה נמצא הבית בראשונה ובשנייה חרב במוצאי שביעית והיא השנה

שתחלתה מתשרי שאחר החרבן

שתחלתה מתשרי שאחר החרבן

כשני חדשים שהרי מתשרי הוא

המנין לשמיטים וליובלות אותה השנה מוצאי שביעית היתה. ושנת ט"ו מן היובל התשיעי היתה. ולפי חשבון זה שנה זו שהיא שנת אלף ומאה ושבע לחרבן

ודרך החשבון על מניין זה לידע שנת השמיטה הוא שתוסיף על מנין שטרות שלשים וארבע לפי שבשנת אחד וארבעים לחרבן הת־חילו[102] למנות לשטרות כמו שנת־

100) *Erachin* 13a.

101) The 50th year, known as Yobel, (Lev. 25, 8ff. and 27, 17ff.) according to the opinion of Rabbi Juda, was at the same time the first of the next Shmittah period (Ex. 23, 10-11, Lev. 25, 1-7, Deut. 15, 1-3) שנת החמשים עולה לכאן ולכאן *Erakh.* 33a, *RhS* 9a). The sages, however, hold that the Yobel interrupts the counting, שנת החמשים אינה מן המנין (*Erachin* 33a) which means that the 51st year would be the first of the next Shmittah period, thus making the 57th the next Shmittah. Maimonides follows the opinion of the sages, but also considers the opinion of Rabbi Judah which was adopted by the Geonim and used for practical purposes.

102) This expression seems to be a scribe's mistake. Maimonides must have written "After the erection of the Second Temple" instead, referring to *Ab.Zar.* 9a and 10a, where the Talmud says that after the erection of the Second Temple, the Persians reigned for 34 years and that then the Greeks took over. The Talmud teaches that the Greeks first reigned 6 years in *Elam* only and that they

ברר תחלת ע"ז[104] ותשליך הכל חמשים חמשים והנשאר פחות מחמשים השליכהו שבעה שבעה ותדע בכמה שנים מן השבוע אתה עומד ולפי חשבון זה תהיה שנה זו שהיא שנת שש ושמונים וארבע מאות לשטרות

שהיא שנת שמונים ושבעה ואלף וארבע מאות למנין שטרות שהיא שנת ששה ושלשים ותשע מאות וארבעת אלפים ליצירה

היא שנת שמיטה והיא שנת אחת ועשרים מן היובל:

ששית בשבוע והיא שנת עשרים ביובל[103]

ה

אבל כל הגאונים אמרו שמסורת היא בידיהם איש מפי איש שלא

אבל מצאנו תשובה לגאון רבינו האיי זצ"ל עניינה שמנין ראשון לא בטל ושעליו אנו סומכים אבל לא מנו

מנו באותן השבעים שנה שבין חרבן בית ראשון ובנין בית שני אלא שמטות בלבד בלא יובל. וכן משחרב באחרונה לא מנו שנת יובלות משחרב הבית בראשונה

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then spread their "ruling over the whole world." At this time the counting to the SE started. On the other hand we hear that the Jews started counting the first Shmittah period with the year 7 after the erection of the Temple. From this information we derive the following figures:

A) AM I	B) Years of 2nd Temple	C) Persians	D) Greeks in Elam	E) Greeks over world	F) SE	G) Shmittah	p.19 line
3410	1	1					17
+ 6	+ 6	+ 6					
3416	7	7				1	
+ 27	+27	+27				+27	
3443	34	34				28	
3444	35		1			29	
+ 5	+ 5		+5			+ 5	
3449	40		6			34	
3450	41			1	1 + 34 =	35	19
3451	42			2	2 + 34 =	36	

The difference of 34 between column F and G explains Maimonides' passage: "In order to know the *Shmittah* add 34 to the SE."

103) This is an example for note 102, namely 486, or rather 1486 plus 34 = 1520 : 50 = 30, remainder 20 : 7 = 2, remainder 6.

החמשים אלא שבע שבע בלבד מתחלת שנת החרבן וכן עולה בגמרא ע"ז[104] חשבון זה שהוא קבלה:

אלא שמיטים בלבד.....

ולפי חשבון זה נמצא הבית חרב באחרונה במוצאי שביעית כמו שאמרנו

ו

ושנת השמטה ידועה היא ומפורסמת אצל הגאונים ואנשי א"י וכולן לא מנו אלא לשני חורבן משליכין אותן שבע שבע. ולפי חשבון זה תהי שנה זו שהיא שנת שבע ומאה ואלף לחרבן מוצאי שביעית. ועל זה אנו סומכין וכפי החשבון זה אנו מורין.....

ותהיה שנה זו שהיא ארבע מאות ושמונים ושש לשטרות שנת שמיטה:....

We repeat these statements in the following table. The figures mentioned by Maimonides are indicated by reverse type. The others are conclusions caculated from these figures.

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104) In *AbZar.* 9b, the Talmud gives the following rule for the figuring of the *Shmittah* year:

1) Add 1 (Rashi: To the year from the destruction to present year),
2) Omit the hundreds,
3) Add to the remainder 2 for every hundred years omitted,
4) Divide the remainder by 7, and the then remaining number indicates the year in the Shmittah period.

This rule is not clear since it does not tell us to which number to add 1 as prescribed in step 1. I suggest the following interpretation: Deduct the year in which the destruction took place from the one to be calculated which, automatically, means that you count either the destruction year or the one to be calculated, not both. Both years have to be of the same era, of course, for instance AM I, AM II, CE, etc. To the result add 1 because the destruction was in a first year of a Shmittah period. This rule applied to the last Shmittah year (5712, 1951-52) results in the following figures:

RESPONSUM #234[97]	AM I	AM II	AM III	Yobel	Shmittah	Geonim Shmittah	SE	CE
1) Entry into Canaan, Nissan 10 1st	2491	2490	2489					(1271)-1270
2) Conquest and distribution 14½=15	15	15	15					15
3) Year 1 of 1st Shmittah period 16th	2506	2505	2504	0	1			(1256)-1255
4)								
5) First Shmittah year	.....	.....	.....	...	...	...	...	.....
6)								
7) First Yobel year	.....	.....	.....	...	...	...	...	.....
8)								
9) +424	+424	+424	+424	+8	24			-424
10) Erection of First Temple 440th	2930	2929	2928	8	25			(832)-831
11) First Temple stood +410	+410	+410	+410	8	10			- 410
12) Destruction of First Temple 850th	3340	3339	3338	16	35[98]			(422)-421
13)	+ 1	+ 1	+ 1		+1			- 1
14) Post-Destruction year 70	3341	3340	3339	16	36			(421)-420
15) Balance of Bab. Captivity	+ 69	+ 69	+ 69					-69
16) First year of Second Temple 1st	3410	3409	3408			1		(352)-351
17) + 6	+ 6	+ 6	+ 6			+6		- 6
18) Year 1 of 1st Shmittah period 7th	3416	3415	3414	0	1	7[99]		(346)-345
19)								
20) First Shmittah year	.....	.....	.....	...	...	...	...	.....
21)								
22) First Yobel year	.....	.....	.....	...	...	...	...	.....
23)								
24)								
25) Pre-Destruction year	.....	.....	.....	...	...	...	...	.....
26)	+413	+413	+413	8	13	0		413
27) Destruction of Second Temple	3829	3828	3827	8	14	7	380	(68)-69
28)	+ 1	+ 1	+ 1		+1	+1	+ 1	+ .1
29) Post-Destruction year	3830	3829	3828	8	15	1	381	(69)-70
30)	+1105			+22	5	+6	+1105	+1105
31) Maimonides wrote responsum	4935				20	7	1380	(1174)-1175
32) Maimonides wrote Mishne Torah ..	.....	.....	.....	...	...	...	...	.....
33)	+777					0	+ 777	+777
34) Last Shmittah year	5712					7	2263	(1951)-1952
35)	+ 2					+2	+ 2	+ 2
36) Present year	5714					2	2265	(1953)-1954

MISHNEH TORAH (Hilch. Shmittah v'Yobel X, 2-6.)	AM I	AM II	AM III	Yobel	Shmittah	Geonim Shmittah	SE	DE	CE
1st	2491	2490	2489						(1271)-1270
13½= 14	14	14	14						14
15th	2505	2504	2503	0	1				(1257)-1256
+6	+ 6	+ 6	+ 6	+	6				-6
.. 21st	2511	2510	2509	0	7				(1251)-1250
+43	+ 43	+ 43	+ 43	+	43				-43
.. 64th	2554	2553	2552	0	50				(1208)-1207
				1	0				
+786	+786	+786	+786	15	36				-786
850th	3340	3339	3338	16	36	1			(422)-421
	70	70	70			0			- 70
1st	3410	3409	3408			1			(352)-351
+6	+ 6	+ 6	+ 6			+ 6			-6
7th	3416	3415	3414	0	1	7			(346)-345
+6	+ 6	+ 6	+ 6	+	6	+6			-6
.. 13th	3422	3421	3420	0	7	6			(340)-339
+43	+ 43	+ 43	+ 43	+	43	+1			-43
.. 56th	3465	3464	3463	0	50	7			(297)-296
				1	0				
+364	+364	+364	+364	+7	14	0			364
420th	3829	3828	3827	8	14	7	380		(68)-69
+1	+ 1	+ 1	+ 1	+	1	+1	+ 1		+1
421st	3830	3829	3828	8	15	1	381	1	(69)-70
	+1106	+1106	+1106	+22	6	0	+1106	+1106	+1106
.....	4936	4935	4934		21	1	1487	1107	(1175)-1176
	+776					+6	+776		+776
	5712					7	2263		(1951)-1952
	+ 2					+2	+ 2		+ 2
	5714					2	2265		(1953)-1954

5712 AM I minus 3830 is	1882
or 1952 CE minus 70 CE is also	1882
plus	1
	1883
minus	1800
	83
plus 2 times 18	36

119:7 = 17, Remainder 0.

The remainder of 0 indicates that 5712 was sabbatical. We, to whom the dividing by 7 is not as difficult a task as to our ancestors, would simply use the following method:

1952 minus 70 = 1882 plus 1 — 1883 : 7 269, Remainder 0

The above rule is in complete agreement with that of Rabbenu Hananel *loc.cit.*, who deducts 2 or adds 5 to the SE year and divides by 7:

5712 AM I is equal to 2263 SE (p.19,line 47)

- 2

2261 : 7 = 323, Remainder 0.

or 2263

+ 5

2268 : 7 = 324, Remainder 0.

The remainder 0 indicates a Shmittah year which is in agreement with the above result.

Rabbi Epstein in the English translation of the Talmud (ed. *Soncino Press*) *ad loc. cit.* figures as follows:

1934 CE = 1865 plus 1 —	1866
minus	1800
	66
plus 2 times 18 =	36

102 : 7 = 14, Remainder 4

which is wrong since it would make 1937, 1944 and 1951 sabbatical, instead of 1938, 1945 and 1952. The reason is because Epstein included in the count both, the destruction year and 1934 instead of only one of them. Otherwise he would have given the number of 1864 instead of 1865, and the remainder would have been only 3.

In this table we encounter the following discrepancies:

The Israelites entered Canaan on Nissan 10 (Josh. 4, 19) in 2490 AM I, according to some sources, or in 2491 AM I according to SO (p. 11, l. 19 and p. 19 l. 11[6]). They lived in the country 850 years. However, since from Nissan to Ab, the months of their arrival and departure, there are four months, they must have stayed in the country either 849 1/3 or 850 1/3 years. Furthermore, they spent 14 years in conquering and distributing the land, and after these 14 years they started counting year 1 of the first Shmittah period.[100] Since they came in Nissan and since the counting of Shmittah years starts on RhS, 6 months later, the question arises whether they started counting the Shmittah 13½ or 14½ years after their arrival.

Maimonides in his *teshubah* (*responsum*) seems to put the entry in 2491 AM I which leaves the Israelites 849½ instead of 850 years in the country in agreement with the Talmudic principle that a fractional year is considered a whole year.[7] According to this principle he should have allowed only 13½ years for conquest and distribution. However, in my humble opinion he erroneously disregarded this principle and allowed 14½ years, from Nissan 2491 to end of Ellul 2505. On the next day, RhS 2506, the first year of the first Shmittah period began.

Adolf Schwarz in Bacher-Brann-Simonsohn, *Moses b. Maimon*, vol. I page 369 ff., believes that Maimonides' year 1107 DE does not include the year of the destruction. According to Schwarz' erroneous belief Maimonides considered 69 CE as the year of the burning of the Temple, and called the year 70 the year 1 of the destruction era. Furthermore a contradiction between the Talmudic text and Rabbenu Hananel as claimed by Schwarz does not exist as shown above in this note.

The Talmudic rule incidentally, can be applied to the first destruction as well as to the second since the interval between the first and the second destruction was 490 years, a number divisible by 7 without a remainder.

Because of this mistake every year moved to a wrong position in the Shmittah period,

every 2nd year became a 1st,

every 3rd year became a 2nd *etc.*

until, finally, the destruction year 3340 AM I which should be post-sabbatical became sabbatical.

To solve this contradiction to the Talmud according to which the destruction took place in a post-sabbatical year[105] Maimonides now had to bring in the *Teshubah* the *passage* which we have underlined, the *passage* which states that the destruction year *started* two months *after* the destruction (!) and that this year was post-sabbatical. In other words, the post-destruction year is post-sabbatical but he calls it destruction year. According to Joseph Caro's explanation, Maimonides calls that year the destruction year which started on the day of the destruction, and he called it post-sabbatical because its greater part coincided with the post-sabbatical year which started two months after the destruction.[106] This is just as illogical as saying: A child born on November 9, 1947, is born in a leap year because the greater part of his first year coincided with the leap year 1948!

According to the Talmud, the First and the Second Destructions took place in the same type of year, וכן בשניה.[105] Since Maimonides had to apply the underlined *passage* in the *Teshubah* to the First Destruction, he had to apply it to the Second Destruction too. But this moved the Second Destruction one year too *early,* namely from the post-sabbatical 3830 AM I (69-70) to the sabbatical year 3829 AM I (68-69). Maimonides thus, in his *Teshubah* made the same mistake as AbH and Abraham ibn Daud.

When composing the *Mishneh Torah,* (which he wrote 1 year after the *Teshubah*) Maimonides also put the entry

---

105) *Seder Olam Rabba* § 30, *Taanith* 29a and *Erachin* 11b.

106) *Kessef Mishneh* on *Hilch. Shmittah v'Yobel* X, 4.

in 2491 AM I, but, as it seems, he recognized his mistake in the *Teshubah,* and allowed only 13½ years for conquest and distribution, 1 year less than in the *Teshubah.* Now the year of the first destruction became post-sabbatical, in accord with the Talmud. Thus Maimonides did not have to strain the Talmudic teaching any further and was able to omit the queer *passage* from Mishneh Torah.

However, we read the *passage* again in Mishneh Torah in connection with the Second Destruction.

Since both destruction years are of the same type — וכן בשניה — the *passage* has to apply to both destructions or to none. Has the passage to be added to the First or to be omitted from the Second Destruction in the *Mishneh Torah*? Let the following figures decide this question.

	p.69 line		A) The present text of Mishneh Torah AM I	B) Correction by adding the passage to the 1st destruction AM I	DE	C) Correction by omitting the passage from the 2nd destr. AM I	DE
1) Entry into Canaan	1		2491	2491		2491	
2)			+849	+848		+849	
3) First Destruction	12		3340	3339		3340	
4) Babylonian Exile			+ 70	+ 70		+ 70	
5) 2nd Temple erected	16		3410	3409		3410	
6)			+419	+419		+420	
7) pre-sabbatical				destruction 3828			
8) sabbatical	27	destruction	3829	post-destr. 3829			
9) post-sabbatical	29	post-destr.	3830	post-post d. 3830	1	dstr. 3830	1
10)			+1106	+1106	+1106	+1106	+1106
11)	32		4936	4936	1107	4936	1107

The DE is decisive: Column B is wrong because it calls the second year after the destruction ,i.e., the year which started 14 months after the destruction: Year 1 DE! Furthermore, column B puts the destruction neither in the post-sabbatical year nor in the sabbatical, but even in the pre-sabbatical one.

Column C, however, is correct. In other words, the underlined *passage* has to be omitted from the second Destruction which moves the destruction in the post-sabbatical year 70 CE.

Maimonides calls this year of destruction "year 1 DE" just as he calls the year in which the creation took place "Year

1 AM." The fact has to be stressed that he followed the principle that a fractional year is considered a full year[7] which means that to him no year 0 AM or 0 DE existed.

As this writer has pointed out previously[35] there are other reasons too which support the omission of the *passage* from the *Mishneh Torah.* It does not matter very much in this connection whether the *passage* was brought in by Maimonides himself or, as this writer believes, by an early scribe.

Omitting same from *Mishneh Torah* brings Maimonides' chronology into complete accord with the SO and the Talmud and, as far as the year of the Second Destruction is concerned, also with the historic truth.

Here are the last discrepancies we find.
If 2503 is a 1st year, 2509 is a 7th and not 2510, or
if 2510 is a 7th year, 2504 is a 1st and not 2503 (l. 3 and 5).
If 2503 is a 1st year, 4934 would be a 1st year too, according to the Geonim and not 4936 (line 32), namely:

```
2503 =   0 Yobel   1 Shm.
+835 =  16   "    35   "
3338 =  16   "    36   "   = 1 acc. to the Geonim (line 12)
+1596 :  7 = 228 remainder 0
4934                        1 acc. to the Geonim.
```

It seems impossible that Maimonides himself should have made these mistakes. I believe that scribes copied the figures 2503 and 2510 from other sources who figured from AM III and AM II.

Chapter Twelve

THE SHMITTOTH — CONCLUSION

We have now reached the point where we are in the position to check the findings of this study by additional means, namely the Shmittoth. For this purpose we repeat some of the figures to which we now add Shmittoth.[107]

---

107) Many more passages could be cited which would show that there is no doubt as to which years had to be considered

page	line	AM I	BCE & CE	SE II	DE	Year in Shmittah Period
1) 19	2	2	(3760)-3759			
2)		+3338	+ 3338			
3) 19	15	3340	(422)-421			1st
4)		+110	+ 110			110:7 = 15, Remainder 5
5) 19	19	3450	(312)-311	1		6th
6)		+148	+ 148	+148		148:7 = 21, Remainder 1
7) 33	6	3598	(164)-163	149		7th
8)		+161	+ 161	+161		161:7 = 23, Remainder 0 [108]
9)		3759	(3)-2	310		7th
10) 19	21	3760	(2)-1	311		1st
11) 19	22	3761	(1)-1	312		2nd
12) 19	23	3762	(1)-2	313		3rd
13)		+ 4	+ 4	+ 4		4
14)		3766	(5)-6	317		7th
15)		+ 63	+63	+63		63:7 = 9, Remainder 0
16)		3829	(68)-69	380		7th
17) 19	26	3830	(69)-70	381	1	1st
18)		+1106	+ 1106	+1106	+1106	1106:7 = 158, Remainder 0
19) 19	39	4936	(1175)-1176	1487	1107	1st
20)		+391	+ 391	+391	+391	391:7 = 55, Remainder 6
21)		5327	(1566)-1567	1878	1498	7th
22)		+378	+ 378	+378	+378	378:7 = 54, Remainder 0
23)		5705	(1944)-1945	2256	1876	7th
24)		+ 7	+ 7	+ 7	+ 7	7:7 = 1, Remainder 0
25) 19	47	5712	(1951)-1952	2263	1883	7th [109]

All of the above figures are based on literary passages; they agree with one another and confirm the viewpoint expressed in this study as listed in the summary below.

Shmittoth. See also Zuckermann *"Ueber Sabbathjahrzyklus und Jobelperiode" in Jahresbericht des Juedisch-theologischen Seminars*, Breslau 1857., Zuckermann is in complete agreement with the above figures.

Also R. Spira, formerly Munkatsch, in his lengthy *responsum* (*B'ne Zion*, Jerusalem 5698, I) arrives at the same conclusion, although he erred when claiming that Maimonides put the second destruction in 3829 AM (69 CE).

A contradictory opinion as to the Shmittah period is expressed by Graetz, vol. III, 2 Leipzig 1888, note 8, page 653. According to his opinion the destruction year 69-70 CE was sabbatical.

108) Provided that the Shmittoth were observed according to the opinion of R. Judah during the second commonwealth and not interrupted by Yobel years according to the opinion of the Sages (note 101).

109) See also *Hoshen Mishpat* § 67, 1 where Remo and *Meirath Enayim* mention a number of Shmittah years which agree with our tradition which is that of the Geonim as transmitted by Maimonides, but they are not exactly Maimonides' counting as *Meirath Enayim* claims.

Finally it was a Mosaic law which enabled us to check the results of our inquiry. The Jewish Chronology, the skeleton of the history of our people, based upon Biblical report, has been controlled by a Biblical law — the Shmittah period and the tradition upon which it has been observed throughout the ages. It is the Shmittah period which going back, uninterruptedly, for more than two thousand years, far into the Second Commonwealth, marks like radiant milestones, the way from the blessed times of the Maccabees through a long night of degradation into a ב"ה not distant future with peace and happiness for all mankind when we shall proclaim in a new sense:

אז תרצה הארץ את שבתתיה

SUMMARY

Jewish Chronology is based upon the following data:

1) Year 1 of the Seleucidan era started in autumn of 312 BCE. The counting of years to this era was continued into the Middle Ages and is at present still done by the Yemenite Jews (and some Christian sects in Syria).

2) Year 2 (not 1) of the Creation Era, which we are using today, started on Rosh-ha-Shanah, a Friday, the day on which Adam was created.

3) Year 1 of Destruction Era started on Ab 9, 70 CE (3830 AM), the day of the destruction of the Second Temple. In autumn of the same year, on Rosh-ha-Shanah, its year 2 began. Later erroneously the beginning of the year was moved back from Rosh-ha-Shanah to the 9th of Ab in some instances so that we can sometimes consider the day of the destruction as beginning of year 2 of destruction era.

4) The exodus from Egypt was on a Friday (not Thursday) and the revelation on Mount Sinai on Shabbath, the 50th (not 51st) day of the Omer.

5) The re-consecration of the Temple (Chanukah) took place on Kislev 25, 166 BCE, not 165.

6) The Talmud and also Maimonides put the destruction correctly in 70 CE, (not 68 or 69), but both these sources were misunderstood throughout the ages.

7) By referring to the uninterrupted Shmittah period we can show to a high degree of probability from the times of the Maccabees, and prove fully from the Second Destruction on that Jewish chronology is correct insofar as all its data are in agreement with one another as well as with the chronology of world history.

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